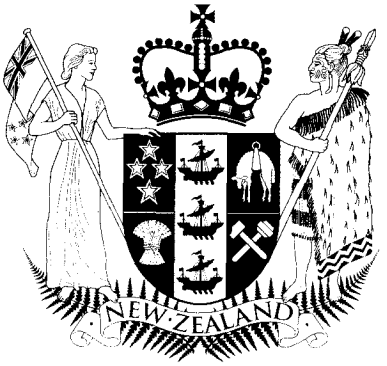

New Zealand Gazette

OF THURSDAY, 30 JULY 1998

WELLINGTON: FRIDAY, 31 JULY 1998 — ISSUE NO. 101

HAZARDOUS SUBSTANCES AND NEW ORGANISMS (GENETICALLY MODIFIED ORGANISMS APPROVALS) ORDER 1998

Hazardous Substances and New Organisms (Genetically Modified Organisms Approvals) Order 1998

MICHAEL HARDIE BOYS, Governor-General

ORDER IN COUNCIL

At Wellington this 27th day of July 1998

Present:

THE RIGHT HON. JENNY SHIPLEY PRESIDING IN COUNCIL

PURSUANT to section 257 of the Hazardous Substances and New Organisms Act 1986, His Excellency the Governor-General, acting by and with the advice and consent of the Executive Council, makes the following order.

ANALYSIS

1. Title and commencement—(1) This order may be cited as the Hazardous Substances and New Organisms (Genetically Modified Organisms Approvals) Order 1998.

(2) This order comes into force on 29 July 1998.

2. Approval of Genetically Modified Organisms (Laboratory facilities)—The organisms listed in Schedule 1 Column 3 as modified by the genes identified for that organism and as approved by the Advisory Committee on Novel Genetic Techniques (ACNGT), are approved under section 45 of the Hazardous Substances and New Organisms Act 1996 on the conditions specified in this order for that organism.

3. Conditions on approvals—The schedule specified in Schedule 1, Column 4 for each organism contains the conditions on the approval for genetic modification of that organism.

4. Approval of Genetically Modified Organisms (Field Trials)—The organisms listed in Schedule 2 as modified by the genes identified by that organism and as approved by the Minister for the Environment on the recommendation of the Interim Assessment Group (IAG), are approved under section 45 of the Hazardous Substances and New Organisms Act 1996 on the conditions specified in that schedule for that organism.

SCHEDULES

MARIE SHROFF,
Clerk of the Executive Council.

SCHEDULE 1: ACNGT Approvals for Transition

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
1.	**University of Auckland Private Bag 92019 AUCKLAND**	1. A. M. Robinson 2. J. D. Fraser 3. N. P. Birch 4. R. C. Gardner 5. R. C. Gardner 6. D. Christie 7. B. Funk 8. A. Shelling 9. R. Snell 10. P. Barling 11. D. Bellamy 12. K. Scott 13. C. W. Evans 14. D. Basset	*Escherichia coli* strains (including K12, JM101, DH5 α, DH5 αF′, HB101, JM109, BL21(DE3), BL21(DE3)pLysS, MC101) as modified by: 1. gDNA from Prevotella sp 2. coding regions of staphylococcal enterotoxin A, B, D and E and streptococcal pyrogenic exotoxins A-D 3. cDNA prepared from mRNA isolated from neuroendocrine, endocrine and non-endocrine tissues and selected cell lines 4. cauliflower mosaic virus, potato spindle tuber viroids, alfalfa mosaic virus, white clover mosaic virus 5. *Petunia hybrida*, *Actinia chinensis* (Kiwifruit), *Lycopersicon esculentum* (tomato) and *Persea americana* (avocado) 6. cDNA prepared from bovine adrenal medullary mRNA 7. membrane receptor proteins 8. human genes 9. fragments of the genes coding for Huntington's, Alzheimer's and Parkinson's disease 10. deer antler cDNA 11. cDNAs encoding the rotavirus proteins VP4, VP6 and NSP4 12. Galectin-1 cDNA from human cellular cDNA	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			13. fragments and full length genomic and cDNA inserts of human, mouse, rat and zebrafish 14. genes coding for insulin like growth factors, binding protein and receptor genes from ovine fetal and postnatal tissues	
2.		1. N. Birch 2. K. Mountjoy 3. D. R. Love	*Escherichia coli* strains (including K12, JM101, DH5 α, DH5 αF′, HB101, XL2-BLUE MR F′, BL21(DE3), BL21(DE3)pLysS, BL21(DE3)pLysE) as modified by: 1. prohormone cDNAs - proopiomelanocortin, provasopressin, prooxytocin, provasoactice instestinal peptide. 2. eucaryotic DNA fragments 3. human, mouse, rat and zebrafish genomic and cDNA	Category 1, Schedule 4
3.		T. Britain	Yeast strain GSY112 as modified by: 1. cDNA for globin	Category 0, Schedule 3
4.		R. C. Gardner	*Petunia hybrida*, *Actinia chinensis* (Kiwifruit) and other plants, *Agrobacterium* sp. and *Escherichia coli* K12, as modified by: 1. kanamycin resistance genes 2. cryl and cryII genes from *Bacillus thurngiensis*	Category 0, Schedule 3
5.		K. Mountjoy	Human embyronic kidney 293 cells as modified by: 1. human melancortin receptor #5(hMC5-R) 2. full length rat S21 clone	Category 1, Schedule 4

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
6.		1. J. D. Fraser 2. G. W. Krissansen	Mouse strains Balb/c and C57B1/6 as modified by: 1. full length human Vβ2 cDNA 2. cDNA encoding costimulatory componenets of the immune system	Category 1, Schedule 4/Animal Containment 1, Schedule 6
7.		M. During	*Escherichia coli* and Sprague-Dawley, Fisher or Wistar rat as modified by: 1. lacZ gene, luciferase, Green Fluorescent protein, therapeutic genes	Category 1, Schedule 4/Animal Containment 1, Schedule 6
8.		T. Britain	*Saccharomyces cerevisiae* ESY112 as modified by: 1. human globin genes	
9.		G. J. S. Cooper	Sprague Dawley rats as modified by: 1. human amylin gene	
10.		S. Stott	Chicken embyo fibrolast cultures as modified by: 1. developmental genes of chicken, hedgehog and mouse	Category 1, Schedule 4
11.		1. N. P. Birch 2. D. L. Christie	*Escherichia coli* JM101, DH5 α, DH5 αF′, HB101, JM109, BL21(DE3), BL21(DE3)pLysS, MC101) and mammalian and insect cell lines as modified by: 1. bovine, human, rat and mouse cDNAs, LacZ and Green Fluorescent Protein, and human, rat and	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			mouse prohormone processing enxymes 2. bovine noradrenaline and creatine transporters cDNA	
12.		N. P. Birch	Yeast strains as modified by: 1. rat and human cDNAs	Category 0, Schedule 3
13.		E. N. Baker	*Escherichia coli* BL21(DE3), SF4, M15(PREP4), *P. pastoris,* BHK, Trichoplusia ni as modified by: 1. Fragments and full length cDNA of proteins over expressed for crystallisation trials (proteins from *Escherichia coli*, *P. shermanii*, *B. caldovelox*, *L casei,* rat, human, human milk, *Xenopus laevis,* Squid eye.	Category 0. Schedule 3
14.		D. R. Love	Human cells lines as modified by: 1. Huntington's disease cDNA.	Category 1, Schedule 4
15.		G. Finlay	Mammalian cancer cells as modified by: 1. cDNA for human heat shock protein 27 (Hsp27).	Category 0, Schedule 3
16.		D. S. Saul	*Escherichia coli* DH5 α and *Kluyveromyces lactis* as modified by: 1. SSU rRNA 2. genes encoding thermophilic enzymes (isolated from thermophilic Bacteria and Archaea).	Catergory 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
17.	**University of Waikato, Private Bag 3105 HAMILTON**	C. G. Harfoot	*Escherichia coli* strain PB2481 as modified by: 1. β-glucosidase gene from the thermophilic anaerobe *Caldocellum saccharolyticum* strain Tp8	Category 0, Schedule 3
18.		C. G. Harfoot	*Escherichia coli* strain pML3/DH5α as modified by: 1. gene for an antigenic protein from *Mycobacterium leprae*.	Category 1, Schedule 4
19.	**Massey University Private Bag 11222 PALMERSTON NORTH**	1. Y. Itoh 2. S. Yunchalard 3. M. Collett 4. D. M. Watt 5. R. E. Bradshaw 6. R. E. Bradshaw 7. R. E. Bradshaw 8. P. J. Fisher 9. M. Lewis 10. R. E. Bradshaw 11. K. Farrant 12. R. Johnson 13. J. Schmid 14. S. Cleland and H. Fitzsimmons and K. Frith 15. K. Stowell 16. K. Stowell 17. K. Stowell 18. G. Hotter	*Escherichia coli* strains including: MC1022, LE392, JM101, HB101, DH5α, DHI, JM109, NM522, DB1318, XL-1, XL1-Blue MFR′, SOLR, VCS267, Y1090, KW251, S175, BW313 as modified by: 1. *Penicillium paxilli* DNA fragments and genomic DNA 2. *Lactococcus lactis* subsp. *lactis* DNA fragments 3. *pyr4* gene, hygromycin and phleomycin resistance gene 4. *Acremonium typhinum* DNA fragments 5. Genomic library DNA of Saccharomyces cerevisiae AB320 6. fragments of *Aspergillus nidulans* genes: *nia*D, *arg*B, *amd*S 7. fragments of *Aspergillus nidulans* C gene 8. transfer gene from derivative of *Agrobacterium tumefaciens* C58 9. *ure1, ure2, ure3* and *ure4* from *S. pombe* 10. *Dothistroma pini* genomic DNA from field	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
		19. H. Fitzsimmons	isolates	
		20. D. Cooper	11. *Giardia muris* and *G. intestinalis* DNA fragments	
		21. M. Sullivan and R. Ramsay and J. Schmid	12. *Penicillium paxilli* DNA containing hygromycin B resistance cassette 13. *Aspergillus nidulans gpd* gene	
		22. R. Ramsay	14. *Drosophila* DNA	
		23. M. T. McManus	15. Human factor IX genomic DNA	
		24. M. T. McManus	16. Ovine citrate lyase genomic and cDNA from sheep liver	
		25. M. T. McManus		
		26. J. Dobson	17. Bovine lactoferrin genomic fragment	
		27. C. Moon	18. *Pinus radiata* cDNAs	
		28. L. McMillan and C. Young	19. *Escherichia coli* lacZ gene 20. *Glomerella cingulata* genomic DNA	
		29. A. Ganley	21. *Candida albicans* ATCC 10261 genomic DNA	
		30. K. Saunders	22. *Saccharomyces cerevisiae* AH22-clone genes EXG and BGL2	
		31. H. Zhang		
		32. Pak-Lam Yu	23. Peanut peroxidase cDNA	
		33. B. C. Robertson	24. truncated ACC oxidase gene from white clover (*Trifolium repens* L.)	
		34. R. E. Bradshaw		
		35. R. Gardiner	25. truncated ACC oxidase gene from *Phaseolus vulgaris*	
		36. M. Scott		
		37. P. C. Farley	26. *Acremonium lolii* strain LP1 genomic DNA	
		38. C. Day	27. *Epichloe typhina* strain E8	
		39. C. Russell	28. *Penicillium paxilli* DNA and cDNAs	
		40. P. Ritchie	29. DNA from *Acremonium* strain LP1	
		41. R. Page	30. DNA from *Acremonium* strain LP1, LP19	
		42. P. Jameson	31. *Pinus radiata* DNA sequences	
		43. B. Scott	32. Green fluorescent protein (GFP)	
		44. B. Scott	33. Kakapo (*Strigops habroptilus)* DNA	
		45. M. J. Hardman	34. *Dothistroma pini* β tubilin gene	

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			35. *Aspergillus nidulans* genomic DNA strain R153 36. *Drosophila melanogaster* and *D. hydei* DNA and *Ceratitus capitata* DNA 37. *Cucurbita maxima* genomic and cDNA, and cloned proteinase inhibitor gene 38. Mammalian, *Drosophila* and *C. elegans* cDNAs 39. genes for luminescence 40. *Pygoscelis adeliae* (penguin) DNA 41. full length rat kidney cDNA of CDK8 42. *Metrosideros* homologues of floral identity genes LEAFY and APETALAI 43. *Penicillium paxilli* genomic DNA of wildtype 44. *tub2* genes from *Hordeum bogdanic* and *Lolium sp.* 45. DNA encoding glucose-fructose oxidoreductase (GFOR)	
20.		1. M. Collett 2. J Schmid	*Acremonium* as modified by: 1. *pyr4* gene, hygromycin and phleomycin resistance gene 2. *Aspergillus nidulans gpd* gene	Category 0, Schedule 3
21.		1. R. E. Bradshaw 2. J. Mawson 3. T. Brittain 4. Pak-Lam Yu 5. M. Sullivan and R. Ramsay 6. R. Ramsay	*Saccharomyces cerevisiae* ZW13, GSY 112, AH22, Y189, Y190, CG-1945, BWG1-7A, JO1-1A, LPY22 as modified by: 1. Genomic library DNA of *Saccharomyces cerevisiae* AB320 2. genes for the expression of embryonic haemoglobin	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
		7. S. Cleland 8. R. Gardiner	3. cDNA for globin 4. human lactoferrin cDNA 5. *Candida albicans* ATCC 10261 DNA 6. *Saccharomyces cerevisiae* AH22-clone genes EXG and BGL2 7. *Drosopohila* DNA 8. *Aspergillus nidulans* genomic DNA strain R153	
22.		1. Pak-Lam Yu	*Kluyveromyces lactis* as modified by: 1. human lactoferrin cDNA	Category0 Schedule 3
23.		E. Gormley R. Johnson	*Mycobacteria smegmatis* MC^2155 as modified by: 1. *M. bovis* 2. *M. bovis* BCG 3. cervine interferon gene 4. *Heliobacter pylori* DNA	Category 1, Schedule 4
24.		1. M. Collett 2. R. E. Bradshaw 3. R. E. Bradshaw 4. R. Gardiner	*Aspergillus nidulans* 1-85, 2-124, A58 as modified by: 1. *pyr4* gene, hygromycin and phleomycin resistance gene 2. fragments of *Aspergillus nidulans* genes: *nia*D, *arg*B, *amd*S 3. fragments of *Aspergillus nidulans* C gene 4. *Aspergillus nidulans* genomic DNA strain R153	Category 0, Schedule 3
25.		1. M. Lewis	*Schizosaccharomyces pombe* XL1.1D, XL2.1A, XL3.1A, XL4.1A	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			as modified by: 1. *ure1, ure2, ure3* and *ure4* from *S. pombe*	
26.		1. E. Gormley 2. R. Johnson 3. P. O'Toole 4. N. Peterson 5. R. Johnson	*Escherichia coli* TG1, MC1065, DH5α, TK610, XL1, MC1065, TK610, AB1157 as modified by: 1. cervine interferon gene 2. *Heliobacter pylori* DNA 3. *Heliobacter* speices 4. Human lactoferrin cloned cDNA 5. *Heliobacter felis* DNA	Category 1, Schedule 4
27.		1. E. Gormley	*Mycobacteria bovis* BCG as modified by: 1. cervine interferon gene	Category 1, Schedule 4
28.		1. D. Kerr 2. M. T. McManus	*Nicotiana tabacum* as modified by: 1. wildtype Ri and Ti plasmids 2. peanut peroxidase gene, Potato proteinase gene and Neomycin phototransferase gene	Category 0, Schedule 3
29.		1. R. E. Bradshaw	*Dothistroma pini* wild field type isolate as modified by: 1. gene fragments of involved in the biosynthesis of *D. pini* toxin, dothistromin	Category 0, Schedule 3
30.		R. Johnson	*Mycobacteria smegmatis* BCG as modified by: 1. *Heliobacter pylori* DNA	Category 1, Schedule 4

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
31.		1. S. Cleland and H. Fitzsimmons 2. H. Fitzsimmons	*Drosophila melanogaster* modified by 1. *Drosophila* DNA 2. *Escherichia coli* lacZ gene	Category 0, Schedule 3
32.		P. Jameson	*Brassica oleraceae* modified by 1. *ipt* gene from *Agrobacterium tumefaciens*	Category 0, Schedule 3
33.		E. Baker	*S. frugiperda* cultured cell line modified by 1. *L. forbesi* cDNAs for G protein subunits and associated proteins 2. B. tuarus cDNAs for G protein subunits and associated proteins	Category 0, Schedule 3
34.		N. Peterson	*Pichia pastoris* Baby hamster kidney cells modified by 1. Human lactoferrin cloned cDNA	Category 1, Schedule 4
35.		1. M. Sullivan and R. Ramsay 2. R. Ramsay 3. P. C. Farley 4. C. Day	*Pichia pastoris* GS115, KM71 modified by 1. *Candida albicans* ATCC 10261 genomic DNA 2. *Saccharomyces cerevisiae* AH22-clone genes EXG and BGL2 3. *Cucurbita maxima* genomic and cDNA, and cloned proteinase inhibitor gene 4. Mammalian, *Drosophila*, *C. elegans* cDNAs	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
36.		M. T. McManus	*Agrobacterium tumefaciens* LBA4404 modified by 1. peanut peroxidase gene 2. Neomycin phototransferase gene 3. Potato proteinase gene	Category 0, Schedule 3
37.		M. T. McManus	*Solanum tuberosum* modified by 1. peanut peroxidase gene 2. Potato proteinase gene 3. Neomycin phototransferase gene	Category 0, Schedule 3
38.		P. W. O'Toole	*Lactococcus lactis* modified by 1. *Heliobacter pylori* DNA fragments	Category 1, Schedule 4
39.		M. Scott	*Lucilia cuprina* modified by 1. *Drosophila melanogaster* and *D. hydei* DNA 2. *Ceratitus capitata* DNA	Category 0, Schedule 3
40.		R, Johnson	*Heliobacter felis* ATCC49179 modified by 1. *Heliobacter felis* DNA	Category 1, Schedule 4
41.		C. Russell	Pasture plants (clover and ryegrass) modified by 1. genes for luminescence	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
42.		K. Thompson	mice modified by 1. expression of human apoβ-100	Animal Containment 1, Schedule 6
43.		C. Young	*Penicillium paxilli* as modified by 1. *Penicillium paxilli* DNA	Category 0, Schedule 3
44.		M. J. Hardman	*Zymomonas mobilis* ACM3963 as modified by 1. DNA encoding glucose-fructose oxidoreductase (GFOR)	Category 0, Schedule 3
45.	**Victoria University of Wellington P O Box 600 WELLINGTON**	G. Rickards	Cos-7-green monkey kidney cells as modified by: SV40 virus	Category 0, Schedule 3
46.		G. Rickards	Recombinant bacterial strains: DH5α, HB101	Category 0, Schedule 3
47.		G. Rickards	Recombinant yeast strains: HF7c, SY527	Category 0, Schedule 3
48.		G. Rickards	*Escherichia coli* (strain DH5α) as modified by: 1. Tuatara mtDNA 2. Tuatara genomic DNA 3. Mussel mtDNA 4. Yellow crowned parakeet mtDNA 5. plant DNA	Category 0, Schedule 3
49.		A. Sinclair	*Escherichia coli*, mammalian cell lines and non small	Category 1, Schedule 4

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
		(Cana Pharmaceuticals)	cell cancer (NSCC) cell lines as modified by: 1. apoptotic genes	
50.	**Lincoln University** **P O Box 84** **CANTERBURY**	1. S. Damak 2. D. W. Bullock	Sheep as modified by: 1. sheep insulin like growth factor cDNA 2. KER-CAT and KER IGF1	Category 0, Schedule 3
51.		1. J. G. H. Hickford 2. J. G. H. Hickford 3. S. Damak 4. K Armstrong 5. D. W. Bullock 6. D. N. Palmer 7. S. Damak 8. J. G. H. Hickford 9. S. Damak 10. D. W. Bullock 11. D. W. Bullock 12. D. W. Bullock	*Escherichia coli* K12 strains; ie. DH5α, JM109, HB101 as modified by: 1. sheep β_3-adrenergic receptor gene 2. Dichelobacter nodosus fimbrial genes 3. Battens disease cDNAs 4. white fringed weevil (*Naupatus leucoloma)* PCR products from genomic DNA 5. cDNA for baterial chloramphenicol acetyl transferase 6. normal functional mammalian subunit C DNA proteins 7. Krev-1 cDNA 8. human cell line (RAJI) cDNAs 9. human neutrophil elastase gene 10. rat atrial natriuretic factor cDNA 11. rabbit uteroglobin genomic 5'-flanking sequences linked to bacterial chloramphenicol acetyl transferase (CAT) cDNA 12. rabbit uteroglobin genomic 5'-flanking sequences linked to bacterial chloramphenicol acetyl transferase (CAT) cDNA and chicken	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			progesterone receptor cDNA	
52.		D. W. Bullock	*Agrobacterium tumefaciens* *Solanum* spp as modified by: 1. rat atrial natriuretic factor cDNA	Category 0, Schedule 3
53.		A. Stewart	*Sclerotinia sclerotiorum* G36, G52 as modified by: 1. hygromycin resistance gene 2. *Saccharomyces cerevisiae ure 2* gene	Category 0, Schedule 3
54.		A. Stewart	*Botrytis cinerea* Nobilo, B7 as modified by: *1.* hygromycin resistance gene	Category 0 Schedule 3
55.		A. Stewart	*Trichoderma harsianum* M1057 as modified by: 1. hygromycin resistance gene 2. GUS	Category 0, Schedule 3
56.		A. Stewart	*Coniothyrium minitans* A69 as modified by: 1. hygromycin resistance gene 2. GUS 3. GFP	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
57.		1. S. Damak 2. G. W. Kay 3. S. Damak 4. S. Damak 5. D. W. Bullock 6. D. W. Bullock	Mouse as modified by: 1. over expression of lysyl oxidase gene in the lungs 2. *Escherichia coli* β-galactosidase gene (lacZ) 3. cDNA for baterial chloramphenicol acetyl transferase 4. Krev-1 cDNA 5. human neutrophil elastase gene 6. rabbit uteroglobin genomic 5'-flanking sequences linked to bacterial chloramphenicol acetyl transferase (CAT) cDNA	Category 0, Schedule 3
58.	**University of Otago** **P O Box 56** **DUNEDIN**	1. D. P. L. Green 2. D. P. L. Green 3. D. P. L. Green 4. D. P. L. Green 5. D. P. L. Green 6. P. A. Hessian 7. W. Tate 8. C. McKenney 9. W. Tate 10. W. Tate 11. G. S. Buchan 12. J. R. Tagg 13. A. Schofield 14. V. K. Ward 15. R. D. Cannon 16. C. M. Brown 17. G. Young 18. A. J. Harris	*Escherichia coli* strains (including DH5 α, HB101, BL21, BL21 (DE3) plys S, DK101, SURE, MC 1061, XL-1, XL1-Blue, JM 109, BM25.8, STBL2, SOLR, TOP10F', XL-1 Blue MRF', Y1088) as modified by: 1. guinea pig testis cDNA 2. sperad fragments 3. RH0-related proteins 4. human testis cDNA 5. mouse oocyte cDNA 6. human cDNA 7. yeast release factor genes, human release factor genes 8. cDNAs, luciferasecDNA, HIV sequence elements 9. cDNA and PCR products from libraries 10. Seletiocysteine incorporation sequence elements; bacterial release factor genes. 11. murine and cervine cDNA	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
		19. J. F. T. Griffin	12. DNA fragments of *Staphylococcus aureus* strain C55	
		20. M. V. Berridge (Malaghan Institute)	13. Human IGF 2	
		21. M. V. Berridge (Malaghan Institute)	14. invertebrate viruses DNA containing putative apoptosis inhibitors	
		22. M. V. Berridge (Malaghan Institute)	15. *Candida albicans* ATCC 10261 genomic DNA and cDNA	
		23. M. V. Berridge (Malaghan Institute)	16. putative human ribosome recycling factor (rrf) cDNA	
		24. M. V. Berridge (Malaghan Institute)	17. cDNAs encoding fish steroidogenic and Na/K-ATPase gene	
		25. D. Markie	18. deer, human, murine, GFP cDNA or mRNA	
		26. R. Poulter	19. *Mycobacterium bovis, avium and paratuberculosis*	
		27. M. Butler	20. human cytokine receptors	
		28. D. T. Jones	21. rat Glt-1, and human Glut-3, Glut 4 glucose transporters	
		29. R. Poulter	22. oncogenes	
		30. S. P. A. McCormick	23. mouse genes homologues of *Drosophila* genes	
		31. C. Ronson	24. human gene homologues	
		32. C. M. Brown	25. human genomic DNA library	
		33. M. Morgan-Richards	26. Plant RNA and/or DNA	
		34. D. G. Crawford	27. mitochondrial DNA sequences of *Canis familiaris*	
		35. M P Murphy	28. *Clostridium* sp. DNA(non-pathogenic)	
		36. I. L. Lamont	29. *Magnapothe gsna* DNA	
			30. genomic and cDNA inserts of apoliprotein B gene	
			31. *Rhizobium leguminosarum* biovar *trifolii* genomic DNA	
			32. plant release factors (RF1 and RF2)	
			33. *Hermideina thoracica* DNA	

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
		37. R. Poulter	34. *E. coli* wild type and variant synthesis factor clones	
		38. R. Poulter		
		39. R. Poulter	35. human or hamster genomic or cDNA	
		40. S. J. Clark	36. *Pseudomonas aeruginosa* genomic DNA	
		41. M. S. Roy	37. retrotransposon sequences from amphibia	
		42. L. Major	38. retrotransposon sequences from fish	
		43. A Crawford	39. retrotransposon sequences from Botyrotinia fuckeliana	
		44. J. S. Fleming		
		45. M. Eccles	40. *Glomerella cingulata* genomic and cDNA	
		46. J.R Tagg	41. DNA fragment of Ophurid sp.	
		47. R. S. Simmonds	42. sequences containing stop signal elements	
		48. M. Himba	43. Sheep, cattle, deer genomic, cDNA and RNA	
		49. D. Markie	44. DNA sequences from seal, dolphin, hyrax, elephant and/or mouse	
		50. M. A. Kennedy		
		51. J. F. Cutfield	45. humans growth, control and development genes (PAX2, WT1, N-MYC, IGF2, E cadherin, H19 etc)	
		52. S. A Trewick		
		53. M. J. Hubbard		
		54. C. M. Brown	46. PCR fragments generated from human genomic DNA containing single exons of genes	
		55. G. P. Wallis		
		56. C. Marshall	47. *Streptococcus equi* subsp. *zooepidemics* DNA fragment	
		57. V. Ward		
		58. D. Markie	48. human papillomavirus early gene E1 or E2 DNA	
		59. D. Markie	49. cDNA from human fetal brains	
		60. L. Savory	50. fragments of mouse *Aldgh* or VLACS gene	
		61. A. Mercer	51. Exo-β-1,3-glucanse(Exg) from *Candida albicans*	
		62. A. Schofield	52. *Peripatroides novazealandiae* DNA	
		63. B. C. Monk	53. coding region of Erp29 from mature rat (and other species)	
		64. A. Carne		
		65. M. R. Grigor	54. partial clones of the Hepatitas B Virus (HBV) genome	
		66. M. R. Grigor		

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
		67. M. R. Grigor	55. *Galaxias vulgaris* DNA	
		68. M. Cato	56. Lactate dehydrogenase genes from notothenoid fish	
		69. G. Clark		
		70. M. A. Kennedy	57. *Epiphyas postvittana* nucleopolyhedrovirus expression genes	
		71. M. A. Kennedy		
		72. P. E Crossen	58. fragments of human chromosome 19p13.3 cDNA (containing gene possible for Peutz-Jeghers Syndrome)	
		73. C. M. Morris		
		74. V. Cameron	59. *Saccharomyces cerevisiae* ADE2, yeast CYH2, *Candida albicans* URA3 genes and human genes involved in DNA mismatch repair	
		75. V. Cameron		
		76. V. Ward	60. recombinant Orf virus NZ2	
		77. J. S. Fleming	61. *Aequorea victoria* GFP, *Escherichia coli* β-gal, bromodeoxyuridine	
		78. R. S. Simmonds		
		79. D. Wilson	62. human insulin growth like factor	
		80. W. P. Tate	63. PMAI gene from *Saccharomyces cerevisiae*	
		81. J. Mansell	64. *Notodarus sloanii, Loligo forbesi* retinal cDNA	
		82. M. R. Grigor	65. cDNA molecules corresponding to portions of rat and bovine genes of the transporter molecules	
		83. J. Kalmokoff		
		84. I. L. Lamont	66. rat genes	
			67. possum genomic and cDNA	
			68. Human DEC-205 cDNA, human dendritic specific cDNA	
			69. Human CMRF-35 genomic and cDNA fragments	
			70. fragments of adrenoleukodystrophy and related mouse genes	
			71. full length cDNA fragment of mouse and human HLX1 and related mouse genes	
			72. human DNA from leukemia patients	
			73. human leukemia DNA and genomic DNA from	

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			leukemia break point regions 74. Rat or ovine atrial, brain or c-type natriuretic peptide cDNA fragments 75. sheep gene library 76. *Epiphyas postvittana* genomic DNA 77. mammalian hormonal, growth factor and other cDNA 78. ZooA gene from *Streptococcus zooepidemicus* 79. Protein release factors 1 and 2 80. human and rabbit cDNA 81. sequences adjacent to internal UGA codon of *Escherichia coli* formate dehydrogenase 82. portions of human SSTR (somatostatin receptor subtypes) genes 83. restricted genome of an invertebrate virus, *Wiseana* 84. *Pseudomonas aeruginosa* genomic DNA	
1.		G S Buchan	*Baculoviruses* (a genus of insect viruses) as modified by: 1. murine and cervine cytokine genes	Category 0, Schedule 3
1.		M Hibma	Human epithelial cell lines as modified by: 1. human papillomavirus genes, Green fluorescent protein, internal ribosome entry site sequence	Category 1, Schedule 4
1.		A Braithwaite	*Escherichia coli* DH5 α Human and rat embryo fibroblasts as modified by:	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			1. full length p53 and variants there of throughout the coding process 2. full length LT antigen and variants there of 3. full length ST antigen and variants there of 4. full length bcl-2 5. full length caspase 3 6. full length adenovirus Elb19k gene.	
1.		1. A Braithwaite 2. A. R. Hall	*Escherichia coli* DH5 α Rat, mouse and human cell lines as modified by: 1. human adenoviruses 2. Adenoviurs E1a from adenovirus type 5 (*E. coli* only)	Category 1, Schedule 4
2.		K. J. F. Farnden	*Lotus, Lupinus, Asparagus, Tabacum,* petunia spp. and *Agrobacterium tumefaciens, Escherichia coli, Arabidopsis* spp, *Agrobacterium rhizogenes, Alfalfa* spp, soybean spp, *Pisum* spp, yeast as modified by: 1. *Pisum*, rice, maize, Lotus, Lupin, Asparagus genomic and cDNA 2. GUS and luciferase, GFP reporter genes	Category 0, Schedule 3, plus additional conditions: i. transgenic plant material and microorganisms will be autoclaved prior to disposal ii. transgenic plants growth rooms will be locked when unattended iii. transgenic plants will not be permitted to produce transgenic flowers.
3.		D. J. Lyttle	Lister strain of vaccinia virus, primary bovine testis cells, primary ovine testis cells, TK141143B cells as modified by: 1. *Taenia ovis* genes: 45W, 16 kDa and 18kDa	Category 1, Schedule 4

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
4.		R. S. Simmonds	*Streptococcus gordinii* strain DL1, *Escherichia coli* strains DH5α and XL-1 blue as modified by: 1. DNA from *Streptococcus zooepidemics* 2. *Staphylococcus simulans* biovar *staphylolyticus* DNA	Category 0, Schedule 3
5.		V. K. Ward	Invertebrate cell culture lines Sf21, Sf9 and tn5B, Vertebrate cell lines BHK21, Vero, Wehi as modified by: 1. invertebrate viruses DNA containing putative apoptosis inhibitors	Category 0, Schedule 3
6.		R. D. Cannon	*Candida albicans* CA14, *Saccharomyces cerevisiae* AH22 as modified by: 1. *Candida albicans* ATCC 10261 genomic DNA and cDNA	Category 0, Schedule 3
7.		C. M. Brown	Mammalian tissue cells (HepG2, Hep3B, HIH3T3, Cos 7) as modified by: 1. partial clones of the Hepatitas B Virus (HBV) genome 2. Yeast genomic DNA 3. plant or animal cDNA	Category 0, Schedule 3
8.		C. M. Brown	*Escherichia coli* DH5α *Saccharomyces cerevisiae* Mammalian tissue cultures cells	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			Plant protoplasts (tobacco , carrot and oat) as modified by: 1. Yeast genomic DNA 2. plant or animal cDNAs	
9.		C. M. Brown	Plant protoplasts (tobacco , carrot and oat) as modified by: 1. barley yellow dwarf virus cDNA 2. tobacco mosaic virus cDNA	Category 0, Schedule 3
10.		1. C. M. Brown	*Nicotiana tabacum* as modified by: 1. *N. tabacum* 2. *Arabidopsis thaliana*	Category 0, Schedule 3
11.		G. M. Gregory	*Streptococcus pyogenes* as modified by: 1. transposon mutagenesis	Category 1, Schedule 4
12.		M. V. Berridge (Malaghan Institute)	*Xenopus* oocytes as modified by: 1. human cytokine receptors 2. rat Glt-1, and human Glut-3, Glut 4 glucose transporters	Category 0, Schedule 3
13.		M. V. Berridge (Malaghan Institute)	Murine cell lines as modified by: 1. human cytokine receptors 2. rat Glt-1, and human Glut-3, Glut 4 glucose transporters	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			3. oncogenes 4. mouse genes homologues of *Drosophila* genes 5. human gene homologues	
14.		1. F. Ronchese 2. T. Bäckström	*Escherichia coli* murine tumour cell lines as modified by: 1. transfection with eucaryotic expression vectors 2. T cell receptor complex genes and GFP	Category 0, Schedule 3
15.		1. D. Markie 2. S. P. A. McCormick 3. S. J. Clark 4. R. Olds 5. J. F. Cutfield 6. D. Markie 7. B. C. Monk 8. H. Pel	*Saccharomyces cerevisiae* as modified by: 1. Human genomic DNA library 2. Genomic and cDNA inserts of apoliprotein B gene 3. *Glomerella cingulata* genomic and cDNA 4. AT cDNA and signal peptide, and SRP54 cDNA 5. Exo-β-1,3-glucanse(Exg) from *Candida albicans* 6. *Saccharomyces cerevisiae* ADE2, yeast CYH2, *Candida albicans* URA3 genes and human genes involved in DNA mismatch repair 7. PMAI gene from *Saccharomyces cerevisiae* 8. Mitochondrial release factor gene on a genomic DNA fragment	Category 0, Schedule 3
16.		R. Poulter	*Agrobacterium tumefaciens* *Nicotiana tabacum* as modified by: 1. Kanamycin resistance 2. *rol* genes	Category 0, Schedule 3 / Plant House 1, Schedule 8

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
17.		S. B. Fleming D. J. Lyttle	Orf virus strain NZ7, NZ2 primary bovine testis cells lamb testis cells Primary ovine testis cells bovine kidney cell line as modified by: 1. β galatosidase gene (NZ7) 2. xanthine-guanine phosphoribosyl transferase gene (NZ7) 3. xgpt and β-gal genes 4. DNA encoding *Taenia ovis* oncospheres	Category 1. Schedule 4
18.		A. Mercer	Invertebrate cell culture lines Sf21, Sf9 and tn5B as modified by: 1. cDNA clones of biogenic amine receptors from the honey bee, *Apis mellifera*	Category 0, Schedule 3
19.		D. Tisdall	Orf virus Primary ovine testis cells bovine kidney cell line as modified by: 1. β galatosidase gene 2. xanthine-guanine phosphoribosyl transferase gene 3. DNA encoding antigenic polypeptides from viruses and parasites 4. DNA encoding the Eg 95 polypeptide from *Echinococcus granulosus* 5. DNA encoding the bovine herpes virus gD glycoprotein	Category 1, Schedule 4

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
20.		C. Ronson	*Trifolium repens, T. ambiguum, T. pratense* as modified by: 1. *Rhizobium leguminosarum* biovar *trifolii* genomic DNA	Category 0, Schedule 3
21.		I. L. Lamont	*Pseudomonas aeruginosa* as modified by: 1. *Pseudomonas aeruginosa* genomic DNA	Category 0, Schedule 3
22.		1. S. A. Clark 2. J. F. Cutfield	*Pichia pastoris* *as modified by:* 1. *Glomerella cingulata* genomic and cDNA 2. Exo-β-1,3-glucanse(Exg) from *Candida albicans*	Category 0, Schedule 3
23.		S. A. Clark	*Glomerella cingulata* as modified by: *1. Glomerella cingulata* genomic and cDNA	Category 0, Schedule 3
24.		A. Braithwaite	Human cell lines Adenoviruses and Mutants *Escherichia coli* DH5 α as modified by: 1. full length wt human p53 cDNA	Category 1, Schedule 4
25.		R. S. Simmonds	*Staphylococcus aureus femA* and *femB* as modified by: 1. *Streptococcus equi* subsp. *zooepidemics* DNA fragment 2. *Staphylococcus aureus femA* and *femB*	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
26.		1. M. J. Duxon 2. M. Hubbard 3. S. P. A. McCormick	Mouse strain C57BL/6 as modified by: 1. LacZ gene in strain 2. Neomycin resistance gene in strain 3. human apo-B gene	Animal Containment 1, Schedule 6
27.		M. A. Kennedy	Mouse strains 129Sv, C57BL/6, BALB/c as modified by: 1. fragments of mouse *Aldgh* orVLACS gene	Animal Containment 1, Schedule 6
28.		A. J. Harris	Nude mice modified by 1. LacZ gene labelled antlerogenic cells	Category 0, Schedule 3
29.		L. Savory and A. Mercer	Orf virus NZ2, NZ7 as modified by: 1. inactivation and partial deletion of the VEGF-like gene 2. β galatosidase gene 3. xanthine-guanine phosphoribosyl transferase gene 4. *Aequorea victoria* GFP, *Escherichia coli* β-gal, bromodeoxyuridine (NZ2 only)	Category 1, Schedule 4
30.		J. R. Tagg	*Streptococcus salivarius and S. phygenes Escherichia coli* as modified by: *1. Escherichia coli* 2. Selection markers (Erythromycin, tetracyclin, chloramphenicol) *3. Streptococcus salivarius*	Category 1, Schedule 4

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			4. Erythromycin resistance determinant	
31.		G. Cook	*Enterococcus faecium* as modified by: 1. Selection markers (Erythromycin, Kanamycin)	Category 1, Schedule 4
32.		C. M. Brown	Mouse, rat and human cell lines as modified by: 1. putative mouse, rat and human ribosome recycling factor (rrf) cDNA	Category 0, Schedule 3
33.		J. Eaton-Rye	*Ginseng* *Agrobacterium tumefaciens* as modified by: 1. kanamycin, vancomycin resistance etc.	Plant House 1, Schedule 8
34.		C. M. Brown	*Escherichia coli* *Saccharomyces cerevisiae* *Chlamydomonas reinhardtii* *Synechocytis* PCC6803 as modified by: 1. Genomic DNA of *Escherichia coli, Saccharomyces cerevisiae, Chlamydomonas reinhardtii, Synechocytis* PCC6803	Category 0, Schedule 3
35.		C. Ronson	*Mesorhizobium loti* as modified by: *1. Mesorhizobium loti* genomic DNA and symbiosis island DNA	Category 0, Schedule 3
36.		1. J. Kalmokoff 2. S. Wanwimolruk	Insect cell line Sf9 as modified by:	

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			1. restricted genome of an invertebrate virus, *Wiseana* 2. cDNA of human cytochrome P450 CYP3A4	
37.		G. Buchan	BCG (including strain 1173 P2) as modified by: 1. gene for cervine interleukin 2 2. INF gamma 3. IL-4 4. IL-10 5. Ovalbumin control gene 6. GM-CSF	Category 1, Schedule 4
38.		A. Braithwaite	Syngenic murine dendritic cells modified by 1. ampicillin and neomycin resistance	Category 0, Schedule 3
39.		A. Mercer	Lister strain of vaccinia virus, bovine testis cell lines modified by 1. *Aequorea victoria* GFP, *Escherichia coli* β-gal, bromodeoxyuridine	Category 1, Schedule 4
40.		J. Williams	Rat modified by 1. replication deficient adeno-associated viral constructs	Category 0, Schedule 3
41.		V. Cameron	Embryonic stem cells (mouse strain 129) modified by 1. murine brain natriuretic peptide flanking regions with BNP coding sequences deleted	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
42.		S. Wanwimolruk	*Autographa californica* Modified by 1. cDNA of human cytochrome P450 CYP3A4	Category 0, Schedule 3
43.		T. Hale	Rodent cell lines Modified by 1. genes coding for Maf oncoprotein	Category 1, Schedule 4
44.		A. R. Hall	Rat embryo fibroblast cell lines modified by 1. Adenoviurs E1a from adenovirus type 5, mammalian cell cDNA libraries, deletion mutants of adenovirus 5 Elb58K	Category 1, Schedule 4
45.		A. R. Hall	Saccharomyces cerevisiae modified by 1. Adenoviurs E1a from adenovirus type 5	Category 1, Schedule 4
46.	**AgResearch Wallaceville Animal Research Centre P O Box 40063 UPPER HUTT**	1. D. D. Heath 2. S. B. Lawrence	*Escherichia coli* JM101 as modified by: 1. a gene encoding for a protective antigen in hydatids (*Echinococcus granulosus*) 2. antigens of *Taenia ovis*	Category 1, Schedule 4
47.		D. D. Heath	Orf virus strain NZ2 (a double stranded DNA virus of the Parapoxvirus genus) as modified by: 1. *E. coli* xgpt gene and the *E. coli* lac z gene 2. *T. ovis* 45W gene, *E. coli* xgpt gene and the *E. coli* lac z gene	Catergory 2, Schedule 5

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			3. *T. ovis* 45W gene fused to a protein secretory leader sequence form the orf virus vascular endothelial growth factor-like gene.	
48.		C. B. Shoemaker	*Schistosoma mansoni* (parasitic worm) as modified by: 1. green fluorescent protein (GFP) (from the jellyfish *Aqueous victoria*) 2. luciferase protein (from the firefly *Photinus pyralis*) 3. β-galactosidase protein from *E. coli* 4. Methotrexate-resistant dihydrofolate reductase (modified form of the human enzyme dihydrofolate reductase)	Category 1, Schedule 4
49.		S. A. Bisset A. Gruenberg	*Caenorhabditis elegans* *Parastrongyloides trichosuri* (nematodes) as modified by: 1. marker and/or anthelmintic resistance genes.	Category 1, Schedule 4
50.		D J Tisdall A. Fidler	*Escherichia coli* as modified by: 1. sheep and possum hormones, reproduction receptors and growth factors	Category 1, Schedule 4
51.		D. R. Maass	as modified by: 1. *T. ovis* 45W gene	Category 1, Schedule 4
52.		G. W. de Lisle, K. Mountjoy (Auckland University)	Vaccinia virus as modified by: 1. melancortin receptors (melanocyte stimulating hormone, adrenocoriticotrophin, and two neural	Category 2, Schedule 5

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			melanocortin receptors)	
53.		N. Wedlock	*Saccharomyces cerevisiae* *Escherichia coli* *Pichia* X-33, SMD1186 as modified by: 1. bovine and possum cytokines (bovine IFHγ, IL-2, IL-1β, GMSCF, possum IL-1β, TFNa)	Category 1, Schedule 4
54.		D. D. Heath	Vaccina virus VV399 as modified by: 1. *E. coli* β-galactosidae gene 2. fragment of *Ecchinococcus granulosus* DNA (Eg95)	Animal Containment 2, Schedule 7
55.		D. D. Heath	Vaccina virus VV61ac as modified by: *1. ovis* 45W gene (To45)	Animal Containment 2, Schedule 7
56.		K. McNatty A. Fidler	*Escherichia coli* strains HB101, DH5 alpha, BL21(DE3), BL21 (DE3)pLysS as modified by: Sheep and possum homologues of the gene/gene families: 1. TGFβ super family 2. Epidermal growth factor 3. Gonadotrophins (Luteining Hormone (LH), Follicle Stimulating Hormone (FSH)) 4. Fibroblast growth factor super family 5. Stem cell factor 6. c-*kit* receptor	Category 1, Schedule 4

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
57.		K. McNatty A. Fidler	*Escherichia coli* strains HB101, DH5 alpha Mammalian cell lines (Chinese hamster ovary) as modified by: 1. coding region of sheep and possum gonadotrophin receptor genes.	Category 1, Schedule 4
58.		K. McNatty A. Fidler	*Escherichia coli* strains HB101, DH5 alpha *Pichia pastoris* strains GS115 *(his4),* SMD1168 *(his4, pep 3)* as modified by: 1. Coding regions of the ovine FSH alpha and Beta genes.	Category 1, Schedule 4
59.		K. McNatty A. Fidler	*E. coli* strains HB101, DH5 alpha *Saccharomyces* cerevisiae strain INVSc1 as modified by: 1. Coding region of the mammalian steroid receptor genes 2. Coding region of the possum GnRH-R gene.	Category 1, Schedule 4
60.		D. M. Collins	*Mycobacterium avium* subsp. *paratuberculosis* *Mycobacterium avium* *Mycobacterium smegmatis* as modified by: 1. Mycobacterial DNA	Category 1, Schedule 4
61.		D. M. Collins	*E. coli* strains HB101, Xl-1 Blue as modified by: 1. Mycobacterial DNA encoding protein antigens	Category 1, Schedule 4

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			(*Mycobacterium tuberculosis* and *Mycobacterium bovis* antigen 85; M. bovis antigen 83; *Mycobacterium paratuberculosis* antigens)	
62.		D. M. Collins	*E. coli* strains HB101, XL1-Blue-MR, BL21, χ2764, DH10B, DH5, JM101 *Mycobacteria smegmatis* mc^2155 *Mycobacteria bovis* as modified by: 1. mycobacterim DNA 2. Wildtype *Mycobacterium bovis*	Category 2, Schedule 5
63.		J. O'Keefe	*E. coli* K12 as modified by: 1. RNA from rabbit livers and viral DNA	Category 0, Schedule 3
64.		J. O'Keefe	*E. coli K12* *Spodoptera frugiperda* as modified by: 1. cDNA from wobbly possum virus infected cells.	Category 1, Schedule 4
65.		C. Shoemaker	Cells derived form the human embryonal kidney cell line, 293 as modified by: 1. *Schistosoma mansoni*, *Caenorhabditis elegans*, *Parastrongyloides trichosuri,* green fluorescent protein, luciferase, β-galatosidae	Category 1, Schedule 4
66.		C. Shoemaker	Spleen cells from BalbC mice and myeloma cells, NS-1	Category 1, Schedule 4

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			as modified by: 1. fusion of mouse spleen cells and myeloma cells	
67.		C. Shoemaker	*Escherichia coli* as modified by: 1. synthetic DNA	Category 1, Schedule 4
68.		P. H. Atkinson	*Escherichia coli* and yeast strains as modified by: genes and gene fragments of 1. sindbis virus 2. semiliki forest virus 3. SV40	Category 1, Schedule 4
69.	**AgResearch Grasslands Research Centre, Private Bag 11008 PALMERSTON NORTH.**	D. W. R. White N. Ellison A. Scott P. M. Sanders	*Escherichia coli*, White clover (*Trifolium repens*) as modified by: 1. White clover genomic and cDNA 2. Ryegrass genomic and cDNA	Category 0, Schedule 3
70.		C Voisey R Biggs (1-6) B. Dudas (7-16)	White clover and tobacco (*Nicotiana tabacum*) as modified by: 1. *Bacillus thuringiensis* (δ-endotoxins, *cryIB(a), cryIA(b), cryIC(B))* 2. Soybean (soybean Kunitz trypsin inhibitor) 3. Potato (*potII* proteinase inhibitor) 4. Wheat (α-amylase inhibitors, monomer and dimer) 5. Mammals (bovine pancreatic trypsin inhibitor) 6. Synthetic (constructed *in vitro*)	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			7. NPT II 8. hygromycin 9. GUS 10. GFP 11. luciferase 12. WClMV genes: coat protein (wild type and mutants) 13. triple gene block (wild type, mutants, GUS fusions), replicase gene 14. CYVV: coat protein gene 15. AIMV: coat protein gene 16. PVX: full length cDNA	
71.		F. Marincs	*Escherichia coli* as modified by: 1. luciferase (*lux*) genes of *Xenohabdus luminescens*	Category 0, Schedule 3
72.		K. Hancock	White clover expressing essential amino acid rich rumen-protected proteins As modified by: 1 kDa oryzin gene, from rice 2 kDa zein gene, from maize 3 3-4kDa CMTI-1 gene from pumpkin 4 coding regions of *Zea mays* or *Zea sp.*, coding for 15-17 kDa high methionine zein seed storage protein 5 coding regions of *Coix lacryma-jobi* genes, coding for zein-related seed storage (Coixin) proteins	Category 0, Schedule 3
73.		G. Attwood	*Escherichia coli* M5219, RB791, HMS174, DH5α	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
		K. Reilly	as modified by: 1 *Clostridium proteoclasticum* (proteinase gene (*proA*) fragments clones PH1, PH2, PH8, PH9, EH2, BH1, strain B316^{T}) 2 *Streptococcus bovis* (strain B315, strain JB1, genomic inserts and fragments of pJB1, putative leucine amino peptidase gene) 3 *Prevotella ruminicola* (strain 118b, putative proteinase gene fragments, 4 *Prevotella* sp.strain C21a 5 *Butyrivibrio fibrisolvens*	
74.		M. Christensen J. Schmid	*Escherichia coli* *Acremonium* endophyte isolates LP3 and Lp19 as modified by: 1. *E. coli* β-glucuronidase gene 2. *E. coli lacZ* or the luciferase gene	Category 0, Schedule 3
75.		R. Biggs K. Hancock D.W.R. White	*Escherichia coli* strains DH5α, DH10B and SURE2 White clover as modified by: 1. coding region of *Erwinia herbicola lsc* gene, coding for fructan synthesis 2. coding region of *Aspergillus sydowi as1* gene, coding for fructan synthesis 3. *Agrobacterium tumefaciens* LBA4404	Category 0, Schedule 3
76.	**AgResearch Invermay Agricultural Centre**	J. M. Suttie, T. E. Broad and B. A. Veenvliet	Embryonic sheep skin fibroblasts (cultured sheep cells) as modified by:	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
	Private Bag 50034 **MOSGIEL**		1. immortalisation with the plasmid 'HuProVim830-T/t-pUC18' containing the construct human vimentin regulatory region.	
77.	**AgResearch** **P O Box 60** **LINCOLN**	T. Glare	*Escherichia coli* strains HB 101, DH5, MC1061, XL1 BLUE, DHB101 *Serratia entomophila* strain 5.6RC *Serratia proteamaculans* *Serratia liquefaciens* *Serratia marcescens* *Serratia plymuthica* *Klebsiella* sp. *Enterobacter agglomerans* *Enterobacter sakazakii* *Pseudomonas* spp. *Rhizobium* spp. as modified by: 1. DNA from *Serratia entomophila* (grass grub pathogenic region of the bacterium).	Category 0, Schedule 3
78.	**AgResearch** **Ruakura** **Agriculture** **Research Centre** **Private Bag 3123** **HAMILTON**	H. Davey	Mouse as modified by: 1. bovine and *Escherichia coli* genomic DNA 2. mouse and *Escherichia coli* genomic DNA 3. mouse and rat genomic and cDNA	Animal Containment 1, Schedule 6
79.		H. Davey P. L'Huillier A. Molenaar G. Laible R. Kambadur	*Escherichia coli* as modified by: 1. *Escherichia coli* genomic DNA 2. human genomic and cDNA 3. bovine genomic and cDNA	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
		T. Wheeler	4. mouse genomic and cDNA 5. rat genomic and cDNA 6. ovine cDNA 7. jellyfish (green fluorescent protein) cDNA 8. firefly/*Escherichia coli* cDNA 9. virus/*Escherichia coli* cDNA 10. *Escherichia coli* lacZ cDNA 11. whale genomic genomic DNA 12. synthetic cDNA 13. T. aquatis genomic DNA	
80.		P. L'Huillier	Mouse as modified by: 1. mouse genomic and synthetic DNA	Animal Containment 1, Schedule 6
81.		P. L'Huillier	*Escherichia coli* as modified by: 1. AAV2 (adeno-associated virus) cDNA 2. human cDNA	Category 1, Schedule 4
82.		J. Demmer	*Escherichia coli* DH5α, XL1-blue, STBL2, SOLR cells as modified by: 1. possum genomic and cDNA 2. bovine cDNA	Category 0, Schedule 3
83.		N. Towers	*Saccharomyces cerevisiae* as modified by: 1. human oestrogen receptor	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
84.	**New Zealand Institute for Crop & Food Research Limited Private Bag 4005 LEVIN**	K. Davies E. Morgan S. Coupe	Chrysanthemum (*Dendranthema* X *grandiflorum*), cyclamen (*Cyclamen persicum*), lisianthus (*Eustoma grandiflorum*), orchid (*Cymbidium* hybrids), pelargonium (*PelargoniumXdomesticum*), petunia (*Petunia axillaris* X *hybrida*), sandersonia (*Sandersonia aurantiaca*), *Viburnum opulus, Viburnum plicatus 'roseaceae'* carrot (*Daucus carota*), potato (*Solanum tuberosum*), strawberry (*Fragaria* X *ananassa*), *Nicotiana benthamiana, Zantedeschia, Arabidopsis*, asparagus (*Asparagus officalis*), Brassica species: rape, kale, lettuce, cauliflower, broccoli as modified by: 1. kanamycin resistance	Category 0, Schedule 3/Plant House 1, Schedule 8
85.		K. Davies S. Coupe	Lisianthus, pelargonium, petunia, sandersonia, orchid, *Viburnum*, carrot, potato, strawberry, asparagus as modified by: 1. hygromycin resistance	Category 0, Schedule 3/Plant House 1, Schedule 8
86.		K. Davies E. Morgan S. Coupe	Chrysanthemum, cyclamen, lisianthus, orchid, pelargonium, petunia, sandersonia, *Viburnum*, carrot, potato, strawberry, *Nicotiana benthamiana, Zantedeschia*, asparagus, broccoli, *Arabidopsis thaliana* as modified by: 1. GUS	Category 0, Schedule 3/Plant House 1, Schedule 8
87.		S. Coupe K. Davies	Chrysanthemum, cyclamen, lisianthus, orchid, pelargonium, petunia, sandersonia, *Viburnum*, carrot,	Category 0, Schedule 3/Plant House 1, Schedule 8

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			potato, strawberry, *Arabidopsis,* asparagus, broccoli as modified by: 1. Green fluorescent protein (GFP)	
88.		K. Davies	Chrysanthemum, cyclamen, orchid, lisianthus, pelargonium, petunia, sandersonia, *Viburnum*, carrot, potato, strawberry as modified by: Plant Flavonoid Biosynthetic Genes: 1. CHS: chalcone synthase 2. CHI: chalcone isomerase 3. CHR: chalcone reductase 4. FNS: flavone synthase 5. F3H: flavanone 3-hydroxylase 6. DFR: dihydroflavonol 4-reductase 7. FLS: flavonol synthase 8. F3′H: flavonoid 3′-hydroxylase 9. F3′5′H: flavonoid 3′5′-hydroxylase 10. ANS: anthocyanidin synthase 11. UFGT: flavonoid 3-glucosyltransferase 12. 3RT: 3-glucoside rhamnoxyltransferase 13. MT: anthocyanin methyltransferase 14. FN4R: flavanone-4-reductase 15. aurone cDNAs (from *Antirrhinum*, chrysanthemum, cyclamen Sandersonia, petunia, pelargonium, lisianthus, maize, *Medicago sativum, Sinningia cardinalis, Columnea hybrida*)	Category 0, Schedule 3/Plant House 1, Schedule 8
89.		K. Davies	Chrysanthemum, cyclamen, orchid, lisianthus, pelargonium, petunia, sandersonia, *Viburnum*, carrot,	Category 0, Schedule 3/Plant House 1, Schedule 8

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			potato, strawberry as modified by: Plant Flavonoid Regulatory Genes: 1. Lc: Leaf colour 2. C1 3. Ros: Rosea 4. Del: Delila 5. myb related cDNAs near Rosea 6. CHLH related cDNAs (from maize & *Antirrhinum majus*)	
90.		K. Nielson	Chrysanthemum, orchid, petunia, sandersonia as modified by: Carotenoid biosynthetic genes: 1. PS: phytoene synthase 2. PDS: phytoene desaturase 3. LCY: lycopene cyclase 4. carotene desaturase 5. carotene hydroxylase 6. hydroxyneurosporene synthase 7. zeathanthin epoxidase (from *Arabidopsis*, chrysanthemum, capsicum, *Erwinnia*, *Nicotiana*, petunia, *Rhodobacter*, sandersonia, tomato)	Category 0, Schedule 3/Plant House 1, Schedule 8
91.		C. Winefield	Chrysanthemum, lisianthus, pelargonium, petunia, *Viburnum* as modified by: 1. RolC	Category 0, Schedule 3/Plant House 1, Schedule 8

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
92.		C. Winefield	Lisianthus, pelargonium, petunia as modified by: 1. RolA	Category 0, Schedule 3/Plant House 1, Schedule 8
93.		C. Winefield	Chrysanthemum, lisianthus, pelargonium, petunia, *Viburnum* as modified by: 1. oat phytochrome A	Category 0, Schedule 3/Plant House 1, Schedule 8
94.		C. Winefield	Petunia, lisianthus as modified by: 1. Co: Constans gene(from *Arabidopsis*, *Brassica campestris,* lisianthus) 2. alf: Leafy gene from petunia	Category 0, Schedule 3/Plant House 1, Schedule 8
95.		K. Davies S. Coupe	Chrysanthemum, lisianthus, pelargonium, petunia, asparagus Brassica species: (rape, kale, lettuce, cauliflower, broccoli) as modified by: 1. Glutamine synthetase	Category 0, Schedule 3/Plant House 1, Schedule 8
96.		S. Coupe	Broccoli as modified by: 1. Isopentyl transferase (IPT)	Category 0, Schedule 3/Plant House 1, Schedule 8

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
97.		E. Morgan	*Nicotiana benthamiona* as modified by: 1. White clover mosaic virus triple gene block transport genes	Category 0, Schedule 3/Plant House 1, Schedule 8
98.		C. Winefield	*Escherichia coli* (lysogenic strains BHB2690 and BHB2688) as modified by: 1. Lambda virus	Category 0, Schedule 3
99.		Crop and Food, Levin.	*Escherichia coli* (standard laboratory strains), *Saccharomyces cerevisiae* (standard laboratory strains), *Agrobacterium rhizogenes* strains (A4, A4T, HR1, 1855, 8196, 5794), *Agrobacterium tumefaciens* strains (including A281, A722, A4T, B6, C58, EHA101, H100, 7633, 2760 (LBA4404), 5330, 6025, 8302, 8326, 8330, EHA 105, MOG101, MOG301, Chry5, GV3101, 8639, 8640, 8642, 6488) as modified by: 1. genes as listed above under Crop and Food Levin 2. Bean genomic and cDNAs 3. Parsley genomic and cDNAs 4. Tomato genomic and cDNAs 5. Putunia genomic and cDNAs 6. Maize genomic and cDNAs 7. Apple genomic and cDNAs 8. Carnation genomic and cDNAs 9. asparagus genomic and cDNAs 10. *Malus* genomic and cDNAs 11. *Eustoma* genomic and cDNAs	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			12. Pelargonium genomic and cDNAs 13. chrysanthemum genomic and cDNAs 14. cyclamen genomic and cDNAs 15. orchid genomic and cDNAs 16. sandersonia genomic and cDNAs 17. carrot genomic and cDNAs 18. potato genomic and cDNAs 19. *Arabidopsis* genomic and cDNAs 20. brassica species genomic and cDNAs 21. *viburnum* genomic and cDNAs 22. *Sinningia* genomic and cDNAs 23. *Columna* genomic and cDNAs 24. *Antirrhinum* genomic and cDNAs 25. Glycine genomic and cDNAs 26. Capsicum genomic and cDNAs	
100.	**Crop and Food Ltd, Lincoln Private Bag 4704 CHRISTCHRUCH**	A. J.Conner G. Timmerman-Vaughan	*Escherichia coli* *Agrobacterium tumefaciens* as modified by: 1. pea gene for resistance to powdery mildew fungus 2. pea gene for resistance to pea enation virus 3. pea genomic and cDNA 4. soybean cDNA 5. mung bean cDNA 6. *Vigna mungo* cDNA 7. Arabidopsis cDNA 8. lentil cDNA 9. *Phaseolus vulgaris* cDNA 10. peas glutamine synthase 11. *Asparagus officinalis* cDNA	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			12. *Vivia faba* sucrose synthase, ADP-glucose pyrophosphorylase 13. alfalfa cDNA 14. potato virus Y coat protein coding region 15. coding region from unclassified NZ native plant	
101.		A. J.. Conner G. Timmerman-Vaughan	*Pisum sativum* *Solanum tuberosum* as modified by: 1. resistance to alfalfa mosaic virus 2. resistance to seed borne mosaic virus 3. maize Ac/Ds transposable element system 4. potato virus Y coat protein coding region 5. Potato leaf roller virus coat protein coding region 6. tobacco mosaic virus	Category 0, Schedule 3/ Plant House 1, Schedule 8
102.		J. McCallum	*Escherichia coli* as modified by: 1. onion cDNA 2. Pine disease resistance gene homologues 3. onion disease resistance gene homologues 4. onion aquaporin homologue 5. pea genomic clone 6. *Oncidium excavatum* chloroplast clone	Category 0, Schedule 3
103.		J. W. Marshall	*Escherichia coli* modified by DNA from: 1. *Globodera rostochiensis* 2. *Globodera pallida* 3. *Spongospora subterranea*	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			4. *Rhizoctonia solani* 5. *Plasmodiophora brassicae* 6. *Streptomyces spp.* 7. *Verticillium fungicola* 8. *Pseudomonas syringae pv. Pisi* 9. *Pseudomonas gingeri* 10. La France virus	
104.		M. Christey	*Brassica oleracea, B. campestris* and *B. napus* cultivars as modified by: 1. GUS gene 2. Bar gene 3. NPT II gene 4. CS gene 5. ACC antisense 6. BWYV coat protein gene 7. ETR gene 8. AS-GUS gene 9. Shiva gene 10. non functional ACC gene	Category 0, Schedule 3/ Plant House 1, Schedule 8
105.		R. Bicknell	*Hieracium* sub genus *Pilosella* as modified by: 1. β Glururonidase (GUS) (*uidA* gene) from *Escherichia coli* 2. Ac transposon (*Ac* gene) from Maize 3. Ds transposon (*Ds* gene) from Maize 4. Spectinomycin resistance (*aadA* gene) from *Shigella flexneri*	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			5. Streptomycin resistance (*str* gene) 6. Kanamycin resistance (NPT II gene) 7. Hygromycin resistance (*aph 4* gene) from *Escherichia coli* 8. *codA* gene from *Escherichia coli*	
106.		A. J. Conner	*Escherichia coli* and *Agrobacterium tumefaciens* strains as modified by: 1. various vectors	Category 0, Schedule 3
107.		A. J. Conner	*Allium cepa* (onion) as modified by: 1. geneticin resistance and a fluorescent green phenotype	Category 0, Schedule 3
108.		C. Eady	*Escherichia coli* DH5α as modified by: 1. lettuce cDNA clones 2. asparagus virus II 3. *Solanum tuberosum* cloned PCR products 4. Oca cloned PCR products 5. *Hieracium* cloned PCR products	Category 0, Schedule 3
109.		J. Grant	Putative *Pinus radiata* as modified by: 1. B Glururonidase (GUS) (*uidA* gene) from *Escherichia coli* 2. Ac transposon (*Ac* gene) from Maize 3. Ds transposon (*Ds* gene) from Maize 4. Basta resistance	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			5. Kanamycin resistance (NPT II gene) 6. Spectinomycin resistance 7. Tobacco R-gene	
110.		J. Grant	*Pisum sativum* as modified by 1. NPT II 2. Alfalfa mosaic virus	Category 0, Schedule 3
111.	**Horticulture and Food Research of New Zealand Ltd.**	E. McRae	Kiwifruit as modified by 1. SPS complete sense and complete and incomplete antisense from kiwifruit	Category 0, Schedule 3
112.		1. E. F. Walton and G. Gill 2. H. S. Gatehouse 3. R. N. Crowhurst 4. S. E. Gardiner 5. V. Mett 6. E. Vincze 7. E. Vincze 8. P. Reynolds 9. P. Reynolds 10. J. L. Vanneste 11. J. L. Vanneste 12. J. T. Christeller 13. S. E. Gardiner 14. A. Gleave 15. A. Gleave	*Escherichia coli* strains (including DH5 α, HB101, BL21, BL21 (DE3), DK101, MC 1022, XL1-Blue, JM 109, BM25.8, TG1, JM101, DH10 α, Y1090,DH11, DH12, DH12B, DH10B, AD494, NM539, NM538, NM522K1400, LE392, W620, HD5α, TB-2, TAP90) modified by 1. Kiwifruit bud cDNA 2. *Nosema apis* ribosomal RNA and fragments of genomic DNA 3. Cutanase gene and hygromycin resistance 4. *Malus prunus* and *Trifolium medicago* genomic and cDNA 5. coding sequences for peptideithioredoxin fusions 6. Plant asparaginase genomic and cDNA from *Lupinus and Lotus* sp.	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
		16. J. Bowen	7. *Rhizobium* and *Agrobacterium* genes coding for repressor protein	
		17. K. M. Plummer		
		18. L. A. Malone	8. Single chain antibody coding sequences, iptII (cytokinin) coding sequences	
		19. M. D. Templeton		
		20. R. Lee	9. plant nod45, plant AAT-P_1 and P_2 genes and their regulatory genes.	
		21. S. A. Lee		
		22. S. Ryan	10. genes for production of antimicrobial compound by *Erwinia herbicola* Eh252	
		23. R. Atkinson		
		24. R. Atkinson	11. resistance to kanamycin	
		25. E. F. Walton	12. Pumpkin fruit tripsin inhibitor, aprotinin, antiproteinase, proteinase inhibitor II, avidin, streptavidin (complete/sense)	
		26. E. F. Walton		
		27. M. Lay-Yee		
		28. S. Reid	13. *Malus, Prunus, Trifolium, Medicago* genomic and cDNA (gene apple mapping)	
		29. G. S. Ross		
		30. G. S. Ross	14. *cre* recombinase, *nia*2 (tobacco nitrate reductase cDNA), *gus, codA, nptII, bar, hyg* genes	
		31. A. MacRae		
		32. D. L. Beck	15. *Bacillus thuringiensis cry*1G and *cry*IA(a) and *cry*1F(b) genes	
		33. E. H. A. Rikkerink		
		34. D. Dawson	16. *Nectria haematococca* library construction (YAC/BAC) and MP1 10.2.5 candidate pathogenicity gene	
		35. L. Liefting		
		36. R. L. S. Forster	17. *Glomerella cingulata* secreted aspartyl proteinase mutated and incomplete	
		37. K. Richardson		
		38. M. Anderson	18. Ribosomal RNA gene region and fragments of total genomic DNA of *Nosema apis*	
		39. Y. Dong		
		40. R. Howitt	19. Ornithine transcarbamoylase from *Escherichia coli* and various cDNAs from *Glomerella cingulata*	
		41. G. Lovei		
		42. P. A. Mooney		
		43. J. L. Vanneste	20. pectin lyaseB gene	
		44. J. L. Vanneste	21. Ethylene-related genes ETR and CTR from apple	

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
		45. X. Zhan 46. M. D. Templeton 47. R. Taylor 48. R. L. S. Forster	22. full length cloned apple DNA 23. apple and kiwifruit genomic libraries 2. Polygalacturonase gene from tomato, XET, GUS, b subunit of polygalacturonase 3. Kiwifruit cDNAs from P5CR, P5CR and OAT, full length and partial clones, in sense orientations 4. Kiwifruit cDNA PCR products for floricaula, partial clones and sense orientation 5. Heat shock proteins (hsp17) from apple, complete, sense and antisense orientations 6. cold regulated apple genes 7. antisense copies of β-galactosidase and polyphenoloxidase mRNAs 8. GUS and ACC oxidase gene promoter 9. alpha amylase (kiwifruit, apple, mung bean, barley)-partial sense and SPS (kiwifruit, spinach)-complete and partial sense and starch phosphorylase (potato)-complete sense ad NADP malate dehydrogenase (apple)-partial sense. 10. viral genes from: WC1MV, TaMV, AIMV, CMV, PVX, PVA (all sense and sequences incomplete) 11. bacterial artificial chromosome (BAC) libraries from scab resistant apple clones 12. sorbitol dehydrogenase, sense complete, from apple cDNA 13. genes of *Phormium* yellow leaf phytoplasma 14. viral genomic sequences from CMV, PVX, PVS, WCMV, TMV, AMV (sense and antisense) 15. Co, Ap1, LFY. ZLFY cDNAs 16. DNA from healthy and infected Cabbage trees	

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			17. Apple genes (involved in early fruit development) 18. mycovirus found in *Botrytis cinerea* strain 19. Antibiotic resistant gene from *Escherichia coli* and proteinase inhibitor gene from soybean or potato 20. CTV viral coat protein genes 21. DNA from epiphytic bacteria (*Erwinia, Pseudomonas*) 22. *ant* gene from *Erwinia herbicola* 23. Pine cDNAs lignin biosynthesis genes 24. *argI* gene from *Escherichia coli* for over expression of L-ornithine transcarbamoylase enzyme 25. pathogen sequences 26. TaMV, AATase II single chain antigen binding protein, GFP, GUS, NaMV and PVX triple block gene proteins	
113.		R. N. Crowhurst	*Fusarium solani* *Fusarium solani* f. sp. *cucurbitae* *Coniothyrium minitans* *Trichoderma harzianium* *Trichoderma hamatum* *Trichoderma virens* *Gliocladium roseum* as modified by: 1. Cutanase gene and hygromycin resistance	Category 0, Schedule 3
114.		1. V. Mett 2. E. Vincze	*Agrobacterium tumefaciens* strains (4404, C54, C58C1, LBA4404, EHA101, A281, C58, GV101)	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
		3. E. Vincze 4. P. Reynolds 5. P. Reynolds 6. J. T. Christeller 7. A. Gleave 8. A. Gleave 9. E. P. J. Burgess 10. R. Atkinson 11. M. Lay-Yee 12. M. Lay-Yee 13. G. S. Ross 14. G. S. Ross 15. D. L. Beck 16. G. Gill 17. R. L. S. Forster 18. J. Yao 19. K. Richardson 20. D. Cohen 21. G. Lovei 22. J. L. Vanneste 23. X. Zhan	*Agrobacterium rhizogenes* strains (15834, K599) as modified by 1. coding sequences for peptideithioredoxin fusions 2. Plant asparaginase genomic and cDNA from *Lupinus and Lotus* sp. 3. *Rhizobium* and *Agrobacterium* genes coding for repressor protein 4. Single chain antibody coding sequences, iptII (cytokinin) coding sequences 5. plant nod45, plant AAT-P_1 and P_2 genes and their regulatory genes 6. Pumpkin fruit tripsin inhibitor, aprotinin, antiproteinase, proteinase inhibitor II, avidin, streptavidin (complete/sense) 7. *cre* recombinase, *nia*2 (tobacco nitrate reductase cDNA), *gus, codA, nptII, bar, hyg.* 8. *Bacillus thuringiensis cry*1G and *cry*1A(a) and *cry*1F(b) genes 9. Proteinase inhibitor and *Bacillus thuriengiensis* genes (SBTI, BPTI, PPiII, POT-2, POT-1, alpha amylase, alpha 1 antitrypsin, PFPI, Cry1B, Cry1AB, Bt14) 10. Polygalacturonase gene from tomato, XET, GUS, b subunit of Polygalacturonase 11. Antisense constructs of ACC synthase and ACC oxidase 12. Heat shock proteins (hsp17) from apple, complete, sense and antisense orientations 13. antisense copies of β-galactosidase and polyphenoloxidase mRNAs	

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			14. GUS and ACC oxidase gene promoter 15. viral genes from: WC1MV, TaMV, AIMV, CMV, PVX, PVA (all sense and sequences incomplete) 16. Cry1, Cry1Ac, Cry1G genes 17. viral genomic sequences from CMV, PVX, PVS, WCMV, TMV, AMV (sense and antisense) 18. Apple ACC oxidase, apple ACC synthase, apple polygalacturonase cDNAs, Bt Cry1Ac, Bt Cry1G 19. GUS, kanamycin and herbicide resistant genes 20. Tamarillo mosaic virus coat protein genes 21. Antibiotic resistant gene from *Escherichia coli* and proteinase inhibitor gene from soybean or potato 22. *ant* gene from *Erwinia herbicola* 23. Pine cDNAs lignin biosynthesis genes	
115.		1. V. Mett 2. P. Reynolds	Various plants as modified by: 1. coding sequences for peptideithioredoxin fusions 2. plant nod45, plant AAT-P_1 and P_2 genes and their regulatory genes.	Plant house 1, Schedule 8
116.		1. E. Vincze 2. E. Vincze	Yeast YM4271 as modified by: 1. Plant asparaginase genomic and cDNA from *Lupinus and Lotus* sp. 2. *Rhizobium* and *Agrobacterium* genes coding for repressor protein	Category 0, Schedule 3
117.		1. E. Vincze	*Rhizobium lupini* spp.	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
		2. E. Vincze 3. P. Reynolds and V. Mett 4. P. Reynolds 5. G. Lovei	*Rhizobium loti* spp. *Rhizobium meliloti* spp. as modified by: 1. Plant asparaginase genomic and cDNA from *Lupinus and Lotus* sp. 2. *Rhizobium* and *Agrobacterium* genes coding for repressor protein 3. Single chain antibody coding sequences, iptII (cytokinin) coding sequences 4. plant nod45, plant AAT-P_1 and P_2 genes and their regulatory genes 5. Antibiotic resistant gene from *Escherichia coli* and proteinase inhibitor gene from soybean or potato	
118.		1. E. Vincze 2. E. Vincze 3. P. Reynolds 4. P. Reynolds	*Bradyrhizobium japonicum* spp. as modified by: 1. Plant asparaginase genomic and cDNA from *Lupinus and Lotus* sp. 2. *Rhizobium* and *Agrobacterium* genes coding for repressor protein 3. Single chain antibody coding sequences, iptII (cytokinin) coding sequences 4. plant nod45, plant AAT-P_1 and P_2 genes and their regulatory genes.	Category 0, Schedule 3
119.		1. P. Reynolds and V. Mett 2. G. Lovei	*Lotus* as modified by: 1. Single chain antibody coding sequences, iptII (cytokinin) coding sequences	Plant house 1, Schedule 8

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			2. Antibiotic resistant gene from *Escherichia coli* and proteinase inhibitor gene from soybean or potato	
120.		J. L. Vanneste	*Erwinia herbicola* Eh159, Eh252 as modified by: 1. genes for production of antimicrobial compound by *Erwinia herbicola* Eh252	Category 0, Schedule 3
121.		J. L. Vanneste	*Pseudomonas fluorescens* as modified by: 1. genes for production of antimicrobial compound by *Erwinia herbicola* Eh252	Category 0, Schedule 3
122.		J. L. Vanneste	*Bacillus subtilis* LK28 as modified by: 1. Resistance to kanamycin 2. Spectinomycin resistance gene	Category 0, Schedule 3
123.		1. A. Gleave 2. E. P. J. Burgess	*Bacillus thuringiensis* HD73-26, Bt 4412 as modified by: 1. *Bacillus thuringiensis cry*1G and *cry*1A(a) and *cry*1F(b) genes 2. Proteinase inhibitor and *Bacillus thuriengiensis* genes (SBTI, BPTI, PPiII, POT-2, POT-1, alpha amylase, alpha 1 antitrypsin, PFPI, Cry1B, Cry1AB, Bt14)	Category 0, Schedule 3
124.		1. J. Bowen 2. R. Lee	*Saccharomyces cerevisiae* ATCC90437 as modified by:	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
		3. E. H. A. Rikkerink	1. *Nectria haematococca* library construction (YAC) and MP1 10.2.5 candidate pathogenicity gene 2. pectin lyaseB gene 3. YAC artificial chromosome (YAC) libraries from scab resistant apple clones	
125.		J. Bowen	*Nectria haematococca* as modified by: 1. *Nectria haematococca* library construction (BAC) and MP1 10.2.5 candidate pathogenicity gene	Category 0, Schedule 3
126.		1. K. M. Plummer 2. M. D. Templeton 3. R. Lee	*Glomerella cingulata* (ICMP 11016) as modified by: 1. *Glomerella cingulata* secreted aspartyl proteinase mutated and incomplete 2. Ornithine transcarbamoylase from *Escherichia coli* and various cDNAs from *Glomerella cingulata* 3. pectin lyaseB gene	Category 0, Schedule 3
127.		E. P. J. Burgess	White clover, *Nicotiana* sp, lettuce, and *Lotus* as modified by: 1. Proteinase inhibitor and *Bacillus thuriengiensis* genes (SBTI, BPTI, PPiII, POT-2, POT-1, alpha amylase, alpha 1 antitrypsin, PFPI, Cry1B, Cry1AB, Bt14)	Plant house 1, Schedule 8
128.		R. Atkinson	*Nicotiana* sp, petunia, *Arabidopsis* or tomato as modified by: 1. Polygalacturonase gene from tomato, XET, GUS,	Plant house 1, Schedule 8

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			b subunit of Polygalacturonase	
129.		1. M. Lay-Yee 2. G. S. Ross 3. J. Yao	*Malus domestica* cv 'Royal Gala' as modified by: 1. Antisense constructs of ACC synthase and ACC oxidase 2. antisense copies of β-galactosidase and polyphenoloxidase mRNAs 3. Apple ACC oxidase, apple ACC synthase, apple polygalacturonase cDNAs, Bt Cry1Ac, Bt Cry1G	Plant house 1, Schedule 8
130.		G. S. Ross	Tomato as modified by: 1. GUS and ACC oxidase gene promoter	Category 0/Plant house 1, Schedule 8
131.		4. R. L. S. Forster 5. D. Cohen	*Nicotiana benthamiana, Nicotiana tabacum* and *Cyphomondra* as modified by: 1. viral genomic sequences from CMV, PVX, PVS, WCMV, TMV, AMV (sense and antisense) 2. Tamarillo mosaic virus coat protein genes	Category 0/ Plant house 1, Schedule 8
132.		1. L. Beck 2. Zhan 3. E. McRae 4. Reynolds and V. Mett	*Nicotiana* sp. as modified by: 1. viral genes from: WC1MV, TaMV, AIMV, CMV, PVX, PVA (all sense and sequences incomplete) 2. Pine cDNAs lignin biosynthesis genes 3. SPS complete sense and complete and incomplete antisense from kiwifruit 4. Single chain antibody coding sequences, iptII (cytokinin) coding sequences	Category 0, Schedule 3/Plant house 1, Schedule 8

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
133.		G. Gill	*Actinidia chinensis and* as modified by: 1. Cry1, Cry1Ac, Cry1G genes	Category 0, Schedule 3/Plant house 1, Schedule 8
134.		G. Gill	*Actinidia arguta* as modified by: 1. GUS	Category 0, Schedule 3/Plant house 1, Schedule 8
135.		K. Richarson	*Arabidopsis* as modified by: 1. GUS, kanamycin and herbicide resistant genes	Category 0, Schedule 3/Plant house 1, Schedule 8
136.		J. L. Vanneste	*Solanum tuberosum* (potato) as modified by: 1. *ant* gene from *Erwinia herbicola*	Plant house 1, Schedule 8
137.		1. X. Zhan	Poplar as modified by: 1. Pine cDNAs lignin biosynthesis genes	Plant house 1, Schedule 8
138.	**Industrial Research Ltd P O Box 31-310 Lower Hutt**	K. Ryan	Petunia hybrida as modified by:: 1. antisense genes	Category 0, Schedule 3
139.		S. Reader	*Escherichia coli* strain type MC4100, as modified by: 1. treA gene for trehalase	Category 0, Schedule 3
140.		S. Reader	*Escherichia coli* DH5 alpha, as modified by: 1. xylE gene plus	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
141.		S. Reader	*Escherichia coli* DH5 alpha dam minus as modified by: 1. pXE plasmid	Category 0, Schedule 3
142.	**Landcare Research (Hamilton Auckland and Lincoln)**	D. Gleeson	as modified by: 1. Mt DNA cytochrome oxidase of *Wainuia* spp.	Category 0, Schedule 3
143.		G. Lloyd-Jones	*Escherichia coli* as modified by: 1. Phenanthrene degradation genes from *Burkholderia* sp. strain RP007 2. Carbazole degradation genes from *Sphingomonas* sp. strain CB3 3. Biphenyl degradation genes from *Pseudomonas* sp. strain CB406 4. Phenanthrene degradation genes from *Pseudomonas* sp. strain OUS82 5. PAH degradation genes amplified directly from soil.	Category 0, Schedule 3
144.		M. Harris	*Escherichia coli* XL1-Blue MRF', DH5 as modified by: 1. tammar wallaby and possum testis and epididymis genes copied from RNA (cDNA library) 2. genes encoding for receptor or transport sperm membrane proteins from the above library	Category 0, Schedule 3
145.	**Institute of**	J. Horswell	*Pseudomonas putida* F1, *Pseudomonas fluorescens*	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
	Environmental Science and Research Kenepuru Science Centre P O Box 50348 PORIRUA	P. D. Jones	10586, *Rhizobium leguminosarum* biovar *trifolii luxAB*, *Escherichia coli* HB101 as modified by: 1. luciferase (*lux*) genes from *Vibrio fischeri*	
146.	**New Zealand Forest Research Institute Ltd. Sala Street P.O. Box 3020 ROTORUA**	C. Walter	*Escherichia coli* *Agrobacterium tumefaciens* as modified by: 1. genes resistance against antibiotics 2. genes resistance against herbicides 3. reproductive development (flowering) genes from different plants 4. wood characteristics related genes from different trees 5. promoter and other regulative sequences from a range of organisms 6. cDNA sequences from radiata pine, related to embryogenesis, wood formation, reproductive development.	Category: 0, Schedule 3/Category 1, Schedule 4
147.	**Fletcher Challenge Forests PO Box 149 Te Teko**	M. A. Shenk	*Eucalyptus grandis*, *Pinus radiata* as modified by: 1. β-D glucuronidase gene (GUS)	Category 1, Schedule 4
148.		B. Flinn	*Nicotiana tabacum* cv. Samsun, *Eucalyptus grandis and Pinus radiata*	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			as modified by: 1. sense and anti-sense orientation of cDNA from *Pinus radiata* and *Eucalyptus grandis* genes 2. sense and anti-sense orientation of a cDNA derived from the Homo sapiens YB-1 gene, Bcl-2 and Bak genes	
149.		B. Flinn	*Nicotiana tabacum* cv. Samsun, *Eucalyptus grandis and Pinus radiata* as modified by: 1. herbicide resistance genes (sense orientation of gox and EPSP-synthase gene and sense orientation of Chim.Hra (ALS sulfonylurea) gene).	Category 0, Schedule 3
150.		B. Flinn	*Nicotiana tabacum* cv. Samsun, and *Arabidopsis thaliana* as modified by: 1. β-D glucuronidase gene (GUS) 2. *Eucalyptus grandis* genes 3. *Pinus radiata* genes	Category 0, Schedule 3
151.		M. Ryan	*Eucalyptus grandis* X *nidens* hybrids as modified by: 1. β-D glucuronidase gene (GUS) 2. Neomycin-phosphotransferase gene (NPT II)	Category 0, Schedule 3/Category 1, Schedule 4
152.	**Cawthron Institute Private Bag 2 NELSON**	C. Molloy	*Saccharomyces cerevisiae* DY-150, AH2 and AB116 as modified by: 1. Chitinase (Chi69) gene from *Janthinobacterium lividium*	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			2. *Chitosanase (Csn)* gene from *Streptomyces* N-174	
153.		C. Molloy	*Klluyveromyces lactis* 98-8c *Pichia pastoris* GS115 as modified by: 1. *Chitosanase (Csn)* gene from *Streptomyces* N-174	Category 0, Schedule 3
154.		C. Molloy	*Escherichia coli* DH5α, TG1 as modified by: 1. Chitinase (Chi69) gene from *Janthinobacterium lividium* 2. *Chitosanase (Csn)* gene from *Streptomyces* N-174	Category 0, Schedule 3
155.		C. Molloy	*Pichia pastoris* GS115 as modified by: 1. over expression of albumin 2. over expression of β-galactosidase 3. Chitinase (Chi69) gene from Janthinobacterium lividium 4. Chitosanase (Csn) gene from Streptomyces N-174	Category 0, Schedule 3
156.	**The New Zealand King Salmon Co. Ltd Kaituna Hatchery Northbank Rd RD5 Blenheim**	J. Symonds	Chinook salmon (*Oncorhynchus tshawytscha*) as modified by: 1. All fish gene construct, promoter and cDNA containing the ocean pout anti-freeze protein promoter plus the chinook salmon growth hormone gene.	Laboratory manipulations: Category 0, Schedule 3 ACNGT approved contained grow out facilities as detailed in Schedule 9.
157.	**Genesis Research and Development**	M. A. Shenk	*Nicotiana tabacum* cv. Samsun as modified by:	Category 1, Schedule 4

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
	Corporation Ltd. **P O Box 50** **AUCKLAND**		1. sense and anti-sense orientation of cDNA from *Pinus radiata* and *Eucalyptus grandis* genes 2. sense orientation of a cDNA derived from the Homo sapiens YB-1 gene, Bcl-2 and Bak genes 3. cDNA from Rattus DP-3 gene	
158.		B. Flinn	*Arabidopsis thaliana* as modified by: 1. sense and anti-sense orientation of a cDNA from *Pinus radiata* and *Eucalyptus grandis* genes	Category 1, Schedule 4
159.		B. Flinn	*Eucalyptus grandis,* *Nicotiana tabacum* cv. Samsun, and *Arabidopsis thaliana* *Pinus radiata* as modified by: 1. b-glucuronidase gene (GUS)	Category 1, Schedule 4
160.		A. Delcayre	*Escherichia coli* as modified by: 1. Partial human Growth Hormone sequence 2. Mycobacterium vaccae genomic DNA	Category 1, Schedule 4
161.		A. Delcayre	*Mycobacteria smegmatis* and *Escherichia coli* as modified by: 1. *Mycobacteria vaccae* genomic DNA 2. Mycobacterium tuberculosis genomic DNA	Category 1, Schedule 4
162.		B. Flinn	*Nicotiana tabacum* cv. Samsun as modified by:	Category 1, Schedule 4

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			1. sense and anti-sense orientation of a cDNA derived from the Pinus radiata DAD1 (Defender Against Cell Death) gene 2. sense orientation of a cDNA derived from the Homo sapiens Bcl-2 gene. 3. sense orientation of a cDNA derived from the Homo sapiens Bak gene.	
163.		A. Kumble	*Escherichia coli,* and Baculoviral genome as modified by: 1. mammal cDNA	Category 0, Schedule 3
164.	**Cater Holt Harvey Forests** **Forest Biotechnology Centre** **PO Box 2463** **TE TEKO**	B. Parkes	*Escherichia coli* *Agrobacterium tumefacies* as modified by: 1. b-glucuronidase gene (GUS)(With and without an intron); 2. Virulence genes from *Agrobacterium* (Vir B, C, D, E1, E2, and G); 3. Antibiotic resistance genes; 4. Neomycin phosphotransferase gene (NPTII); 5. Herbicide resistance genes (Roundup ready gene, Phosphenotrycin resistance gene); 6. Lignin pathway genes; 7. Flowering genes; 8. Synthetic genes developed to produce resistance to a fungi; 9. Fungal resistance genes derived from monoclonal antibodies (mouse) (Single Chain Antibody genes) 10. Conifer or hardwood species cDNA or cloned	Category 0, Schedule 3

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			genes	
165.		B. Parkes	*Pinus radiata* as modified by: 1. β-glucuronidase gene (GUS) 2. Neomycin-phosphotransferase gene (NPT II)	Category 0, Schedule 3
166.	**Malaghan Institute of Medical Research P O Box 7060 WELLINGTON SOUTH**	G. Le Gros	Mouse (*Mus musculus*) strain 5C.C7 as modified by: 1. rearranged murine T cell receptor, specific for pigeon cytochrome c + I -Ek.	Animal Containment 1, Schedule 6
167.		G. Le Gros	Mouse strain 318 as modified by: 1. rearranged murine T cell receptor, specific for LCMV glycoprotein + H-2Db	Animal Containment 1, Schedule 6
168.		G. Le Gros	Mouse strain IL-4 TG as modified by: 1. murine IL-4	Animal Containment 1, Schedule 6
169.		G. Le Gros	Mouse strain IL-4 -/- as modified by: 1. locus inactivated by insertion of bacterial *neo* gene under the viral TK promoter	Animal Containment 1, Schedule 6
170.		G. Le Gros	Mouse strain IL-5 -/- as modified by: 1. locus inactivated by insertion of bacterial *neo*	Animal Containment 1, Schedule 6

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			gene under the viral TK promoter	
171.		G. Le Gros	Mouse strain IL-10-/- as modified by: 1. locus inactivated by insertion of bacterial *neo* gene under the viral TK promoter	Animal Containment 1, Schedule 6
172.		G. Le Gros	Mouse strain γIFN R-/- as modified by: 1. γIFN receptor locus inactivated by insertion of bacterial *neo* gene under the viral TK promoter	Animal Containment 1, Schedule 6
173.		G. Le Gros	Mouse strain B6 Aa^0/ a^0 as modified by: 1. I-Aa chain locus inactivated by insertion of bacterial G418 resistance under the murine PGK-1 promoter	Animal Containment 1, Schedule 6
174.		G. Le Gros	Mouse strain alpha-TCR -/- as modified by: 1. alpha T cell receptor locus inactivated by insertion of bacterial neo gene under the PGK promoter	Animal Containment 1, Schedule 6
175.		G. Le Gros	Mouse strain beta-TCR -/- as modified by: 1. beta T cell receptor locus inactivated by insertion of bacterial neo gene under the PGK promoter	Animal Containment 1, Schedule 6
176.		G. Le Gros	Mouse strain alpha- beta-TCR -/- as modified by:	Animal Containment 1, Schedule 6

Item	Organisation	Researcher holding approval	Genetically modified organism as modified by the identified nucleic acids	Conditions on approval (Schedules 3 to 9 detail the containment categories listed below)
			1. alpha T cell receptor locus inactivated by insertion of bacterial neo gene under the PGK promoter. The targeting vector included viral sequences for MC1-tk and HSV-tk.	
177.		G. Le Gros	Mouse strain beta- gamma-TCR -/- as modified by: 1. beta T cell receptor locus inactivated by insertion of bacterial neo gene under the PGK promoter. The targeting vectors included viral sequences for MC1-tk and HSV-tk	Animal Containment 1, Schedule 6
178.		G. Le Gros	Mouse strain FNgamma -/- as modified by: 1. gamma T cell receptor locus inactivated by insertion of bacterial neo gene. The targeting vector included viral sequences for HSV-tk	Animal Containment 1, Schedule 6

SCHEDULE 2: Approvals for Transition on the recommendation of the Interim Assessment Group

Unless otherwise stated, in this schedule the term applicant refers to the organisation or person named in the row of the table labelled "Institution/Company."

Trial Number	35
Project title	**Field test of white clover genetically modified for resistance to white clover mosaic virus (WC1MV)**
Application approved	2 July 1995
Approved trial period	November 1995-November 1996
Organism Common name	White Clover
Organism Scientific Name	*Trifolium repens* L
Modified by:	1. Gene for resistance to white clover mosaic virus (WC1MV) 2. Neomycin phosphotransferase II gene(NPTII) for kanamycin resistance
Locations of field trial	Aorangi Lowland Research Farm, Palmerston North
Institution / Company	Grasslands Division, New Zealand Pastoral Agriculture Research Institute of New Zealand Ltd, in collaboration with the Horticulture and Food Research Institute of New Zealand.
Institution / Company Contact(s)	R. E. Burgess, Project Coordinator
Conditions on approval:	1. Only persons authorised by the project management shall be admitted to the trial site; 2. The plants shall be transported to the site in secure boxes; 3. Any unused plants shall be destroyed by incineration; 4. The field trial block shall be surrounded by 5m border of cereal and borage, to minimise risk of bee transport of pollen; 5. An exclusion zone of 100m shall be maintained from the nearest white clover plants not part of the trial; 6. Trial site shall be kept free of herbivores including rabbits and sheep; 7. All inflorescences shall be removed before antithesis and monitored, at least weekly, in summer ; 8. All plant material leaving the site shall be secured in labelled, sealed packaging and be destroyed by autoclaving or incineration; 9. At the conclusion of the test, all clover plants remaining to be killed with herbicide ; 10. The site shall be monitored for two years after the completion of the experiment, with any volunteer white clover plants to be killed with herbicide; 11. The trial is approved for one year from planting ; 12. The IAG shall be informed of the start date; 13. The Biological Safety Officer shall be responsible for monitoring the field trial and reporting to the IAG or its successor; 14. A written report of the field test shall be provided to the IAG when the field trial is completed.
Trial start date	November 1995

Completion date	October 1996
Post harvest monitoring completion date	31 October 1998

Trial Number	38
Project title	**Production of hybrid and inbred maize of a European corn borer tolerant maize: nursery trial**
Application approved	7 November 1995
Approved trial period	October-April 1995/96, 1996/97, 1997/98
Organism Common name	Maize
Organism Scientific Name	*Zea mays*
Modified by:	1. CryIA(b) gene from *Bacillus thuringiensis* (Bt) for European Corn Borer tolerance 2. Phosphinothrincin acetyl transferase gene (bar) derived from *Streptomyces hygroscopicus* (conferring resistance to phosphinothricin herbicides) 3. β-lactamase gene
Locations of field trial	Corson Grain Research Station, near Gisborne
Institution / Company	Corson Grain Ltd on behalf of Novartis (previously Ciba Geigy Ltd)
Institution / Company Contact(s)	N. Koevoet, Research and Production Manager

1. The trial is limited to three consecutive seasons, commencing with the 1995/96 growing season;
2. Only persons authorised by Neil Koevoet shall be admitted to the trial site;
3. The timing of the field trial plantings shall result in a minimum temporal isolation buffer from non-transgenic crops of 14 days ;
4. If the temporal isolation buffer is to be breached, then bagging or removal of tassels to control pollen dispersal is required;
5. The trial to be planted by hand and all seed shall be accounted for;
6. Mature seeds from the field trial shall be hand harvested, dried, shelled, packaged at Corson's Research station and shipped to Novartis facilities in France, or destroyed;
7. For transfer to and from New Zealand the seeds shall be secured in labelled sealed packages or containers ;
8. The trial site shall remain fallow for at least 60 days upon completion of the field trial;
9. The trial site shall be monitored throughout the growing season following the trial, with any volunteer maize to be destroyed by incineration ;
10. Corson Grains shall supply written verification to the IAG that all seed released by the Ministry of Agriculture was planted, exported or destroyed;

11. Corson Grains shall supply written verification to the IAG that all seed originating from each trial has been shipped overseas or destroyed by incineration, after completion of each trial;
12. Corson Grains shall submit any changes in the basic trial design to the IAG for approval;
13. An annual written report shall be provided to the IAG within one month of harvest;
14. A final report shall be provided to be provided to the IAG on completion of the field trial;
15. The IAG, or its successor may inspect the trial site by arrangement with the applicants.

Trial start date	December 1995
Completion date	April 1998
Post harvest monitoring completion date	30 April 1999

Trial Number	39
Project title	**Production of hybrid and inbred maize of a European corn borer tolerant maize: field trial on isolated plot**
Application approved	7 November 1995
Approved trial period	October-April 1995/96, 1996/97, 1997/98
Organism Common name	Maize
Organism Scientific Name	*Zea mays*
Modified by:	1. CryIA(b) gene from *Bacillus thuringiensis* (Bt) for European Corn Borer tolerance 2. Phosphinothrincin acetyl transferase gene (bar) derived from *Streptomyces hygroscopicus* (conferring resistance to phosphinothricin herbicides) 3. β-lactamase gene
Locations of field trial	Corson Grains Research Station, near Gisborne
Institution / Company	Corson Grain Ltd, P O Box 1046, Gisborne on behalf of Novartis (previously Ciba Geigy Ltd)
Institution / Company Contact(s)	N. Koevoet, Research and Production Manager
Conditions on approval	1. The trial is limited to three consecutive seasons, commencing with the 1995/96 growing season; 2. Only persons authorised by Neil Koevoet shall be admitted to the trial site; 3. In growing season 2 and 3 (1996/97 and 1997/98) non-transgenic maize shall be incorporated in the trail design to act as a refuge for susceptible invertebrates; 4. The non-transgenic refuge shall surround the transgenic crop on not less than 3 sides, be no more than 5 metres distance from trial crop and be no less than 10% of the number of plants in the transgenic maize field trial;

5. Only persons authorised by Neil Koevoet shall be admitted to the trial site;
6. The field trial shall be isolated by at least 200m from the nearest maize crop;
7. The trial shall be machine planted, with all seed to be accounted for;
8. Mature seeds from the field trial shall be hand harvested, dried, shelled, packaged at Corson's Research station and shipped to Novartis facilities in France, or destroyed;
9. For transfer to and from New Zealand the seeds shall be secured in labelled sealed packages or containers ;
10. The trial site shall remain fallow for at least 60 days upon completion of the field trial;
11. The trial site shall be monitored throughout the growing season following the trial, with any volunteer maize to be destroyed by incineration;
12. Corson Grains shall supply written verification to the IAG that all seed released by the Ministry of Agriculture was planted, exported or destroyed;
13. Corson Grains shall supply written verification to the IAG that all seed originating from each trial has been shipped overseas or destroyed by incineration, after completion of each trial;
14. Corson Grains shall submit any changes in the basic trial design to the IAG for approval;
15. An annual written report shall be provided to the IAG within one month of harvest;
16. A final report shall be provided to be provided to the IAG on completion of the field trial;
17. The IAG, or its successor may inspect the trial site by arrangement with the applicants.

Trial start date	December 1995
Completion date	February 1998
Post harvest monitoring completion date	30 February 1999

Trial Number	40
Project title	**Proposal to develop transgenic rams from which a manufacturing flock of transgenic ewes could be derived in order to produce hAAT in New Zealand**
Approved	27 May 1996 -subject to site inspection and iwi consultation outcomes. Approval to proceed given 31 October 1996.
Approved trial period	May 1996-May 2001
Organism Common name	Sheep
Organism Scientific Name	*Ovis* sp.

Modified by:	DNA sequences encoding human alpha-1-antitrysin (hAAT)
Locations of field trial	Whakamaru, Main Road RD 1, Mangakino
Institution / Company	Mitchell Partners New Zealand on behalf of PPL Therapeutics plc, Scotland
Institution / Company Contact(s)	G. Mitchell, Mitchell Partners (Tauranga) M. Aitkenhead, Farm Manger, PPL Therapeutics (NZ) Ltd, Whakamaru.
Conditions on approval	1. The approval is valid for 5 years from October 1996; 2. The trial shall be performed in an isolation ground approved by the IAG or its successor; 3. The IAG or its successor shall be advised of the start date of the trial and of any changes to the timetable of the trial as indicated in the application; 4. PPL shall prepare, for IAG approval, a contingency plan covering matters such as breaches of security and the consequences of stock escape; 5. For the purpose of security, and to prevent unauthorised entry, the main access to the isolation ground shall be subject to regular surveillance by people associated with the project; 6. Entry to the isolation ground is prohibited to all people and vehicles unless permitted by the manager; 7. No live transgenic animals shall be permitted to leave the isolation ground without the approval of the IAG or its successor; 8. Animals shall be fitted with tags for visible identification and implanted with microchips for electronic identification; 6. The identification system for transgenic animals shall enable the following information to be derived from a database; i) Genotype; ii) Generation (F0, F1..etc); iii) Ownership. 7. All embryos, ova and semen which has been genetically modified, or collected from transgenic animals shall be identified and stored at a secure site; 8. A register of transgenic animals must be maintained which records the identity and fate of all animals on the isolation ground; 9. The Manager shall report immediately to the IAG or its successor on any event that is likely to be in the public interest, e.g. unexpected mortality in several transgenic animals or intruders break security and jeopardise health of animals; 10. The isolation ground shall be enclosed by double perimeter fences, a minimum of 2 metres apart. One of the fences shall be a minimum of 2 metres high; 11. Both perimeter fences shall be stock-proof and capable of containing all animals in isolation. The area between fences shall be clear, so that if animals gain access they can be easily seen; 12. In the case of accidental release/escape PPL shall recover and return the escaped animal(s) to the quarantine facility. If there has been any possibility that an escaped male may have mated

with native sheep, steps shall be taken to abort any possible resulting pregnancies;
13. All quarantine and import requirements of the Ministry of Agriculture and Fisheries shall be met;
14. All animals no longer required for breeding or quarantine purposes shall be disposed of on site, by incineration;
15. PPL shall provide annual reports to the IAG, including a report on completion of the trial;
16. Any establishment of a transgenic manufacturing flock shall be subject to a separate application;
17. The IAG, or its successor may inspect the trial site by arrangement with the applicant;

Trial start date	March 1997
Completion date	October 2001
Post harvest monitoring completion date	N/A

Trial Number	42
Project title	**Proposal for the controlled field trialing of Canola containing Monsanto Corporation's Roundup Ready™ genes for glyphosate herbicide resistance**
Approved	25 November 1996
Approved trial period	November 1996-November 1997
Organism Common name	Canola (Oil seed rape)
Organism Scientific Name	*Brassica napus* L. *Brassica rapa* L.
Modified by:	Round up Ready™ genes for glyphosate herbicide resistance
Locations of field trial	Pukeuri, North Otago
Institution / Company	Zeneca Seeds Inc. Canada
Institution / Company	N. Rampton, Pacific Seeds Pty Ltd, New Zealand
Contact(s)(s)	M. Lewis, Breeder Seed Agronomist, Zeneca Seeds Inc, Canada B. Patchett, Cropmark, Ashburton
Conditions on approval	1. The approval is for a single field trial to be preformed in the 1996/97 growing season. Separate approval will be required for any subsequent field trial; 2. Only persons authorised by the trial manager shall be admitted to the trial site; 3. The total crop area of the trial shall be no more than 0.5 hectares; 4. The canola plots shall be contained within isolation tents, designed to stop the escape of seed by preventing the entry of birds and rodents; 5. Tents shall include rodent resistant skirts buried at least 30 cm into the ground;

6. Tents shall be erected over the canola crops prior to any flowering;
7. Tents shall be checked daily during flowering, to seed maturity and throughout harvesting, to ensure that their integrity is maintained;
8. An isolation zone of 2 kilometres from any other brassica crop, shall be maintained, to guard against the possibility for outcrossing. The 2km isolation zone shall be monitored, with removal of any weedy brassicas. The isolation zone monitoring shall be maintained during the trial and for the subsequent 4 years, or one year beyond time when no new seedlings appear. The isolation zone should not include any part of the isolation zone of any other transgenic canola trial;
9. Seed shall be hand harvested. Following harvesting, trash is to be burnt on site and the site irrigated to promote germination of remaining seed and seedlings controlled through a herbicide or other effective means of removal. Throughout the monitoring period the site shall not be cultivated in a manner that buries seed;
10. Bee hives shall be placed within the tents during flowering. Hives shall not be removed until at least one day after no viable pollen is detected in the hives;
11. All machinery used in the trial is to be thoroughly cleaned to remove any seed before it leaves the trial site;
12. A final report shall be made to the IAG or its successor on the completion of the trial;
13. The management and monitoring programme and the actions taken in accordance with it shall be recorded in a manner that allows verification by the IAG or an enforcement officer under the HSNO Act at any inspection;
14. Written verification shall be provided that all seed originating from the trial has been exported at the completion of the trial;
15. Clearly legible location and site plans shall be provided to the IAG;
16. The IAG or its successor may inspect the trial sites at mutually agreed times.

Trial start date	December 1996
Completion date	July 1997
Post harvest monitoring completion date	31 July 2001, or one year after no further canola seedlings appear on the trial site.

Trial Number	43
Project title	**Proposal to field test genetically modified canola**
Approved	25 November 1996
Approved trial period	November 1996- November 1997
Organism Common	Canola (Oil seed rape)

name	
Organism Scientific Name	*Brassica napus* L. oleifera
Modified by:	1. Barnase gene and Barstar gene for male sterility and restoration 2. Neomycin phosphotransferase gene (NPT II) for kanamycin resistance 3. Phosphinothrincin gene (PAT) from *Streptomyces virichromogenes* for resistance to glufosinate herbicides
Locations of field trials	Site 1: Dromore, Canterbury Site 2: St Andrews, South Canterbury
Institution / Company	Crop and Food Research, Lincoln on behalf of Plant Genetic Systems (PGS), Belgium.
Institution / Company Contact(s)	T. Conner, Crop and Food Research, Lincoln G. Prebble, Enzol Holdings, Asburton
Conditions on approval	1. The approval is for a single field trial to be preformed in the 1996/97 growing season. Separate approval will be required for any subsequent field trial; 2. Only persons authorised by the trial manager shall be admitted to the trial site; 3. The total crop area of the trial shall be no more than 0.5 hectares; 4. The canola plots shall be contained within isolation tents, designed to stop the escape of seed by preventing the entry of birds and rodents; 5. Tents shall include rodent resistant skirts buried at least 30 cm into the ground; 6. Tents shall be erected over the canola crops prior to any flowering; 7. Tents shall be checked daily during flowering, to seed maturity and throughout harvesting, to ensure that their integrity is maintained; 8. An isolation zone of 2 kilometres from any other brassica crop, shall be maintained, to guard against the possibility for outcrossing. The 2km isolation zone shall be monitored, with removal of any weedy brassicas. The isolation zone monitoring shall be maintained during the trial and for the subsequent 4 years, or one year beyond time when no new seedlings appear. The isolation zone should not include any part of the isolation zone of any other transgenic canola trial; 9. Seed shall be hand harvested. Following harvesting, trash is to be burnt on site and the site irrigated to promote germination of remaining seed and seedlings controlled through a herbicide or other effective means of removal. Throughout the monitoring period the site shall not be cultivated in a manner that buries seed; 10. Bee hives shall be placed within the tents during flowering. Hives shall not be removed until at least one day after no viable pollen is detected in the hives; 11. All machinery used in the trial is to be thoroughly cleaned to remove any seed before it leaves the trial site; 12. A final report shall be made to the IAG on the completion of the

	trial; 13. The management and monitoring programme and the actions taken in accordance with it shall be recorded in a manner that allows verification by the IAG or its successor at any inspection; 14. Written verification shall be provided that all seed originating from the trial has been exported at the completion of the trial; 15. Clearly legible location and site plans shall be provided to the IAG; 16. The IAG or its successor may inspect the trial sites at mutually agreed times.
Trial start date	December 1996
Completion date	Dromore site-April 1997 St Andrews site-May 1997
Post harvest monitoring completion date	Dromore site-April 2001 St Andrews site-May 2001 or one year after no further canola seedlings appear on the trial site.

Trial Number	44
Project title	**Large scale fermentation of genetically modified *Escherichia coli***
Application approved	21 July 1997
Approved trial period	N/A (approved for three fermentations)
Organism Common name	*Escherichia coli*
Organism Scientific Name	*Escherichia coli* K-12 (strain BB4 LE392.23)
Modified by:	*Echinococcus granulosus* cDNA coding for a protective antigen of the tapeworm parasite
Locations of trial	Industrial Research Limited, Gracefield, Lower Hutt
Institution / Company	AgResearch Institute Animal Health Division, Wallaceville
Institution / Company Contact(s)	D. D. Heath
Conditions on approval	1. The approval is for three fermentations of 1000L volumes, or less. 2. Access to the containment facility is restricted to authorised personnel; 3. Prior to the fermentation beginning, the Biological Safety Officer of Industrial Research Limited shall confirm in writing to the IAG that the facility meets the physical containment standard Category 1, as detailed in Appendix A of the application, and is appropriate for large scale work; 4. Established experimental protocols for testing the effectiveness of the heat treatment step in killing the bacteria shall be used; 5. Established experimental protocols for testing plasmid DNA in effluent is destroyed prior to disposal shall be used; 6. The effluent shall be autoclaved at 121°C for half an hour to ensure any remaining DNA is denatured; 7. Confirmation is required that the organism used for inoculation

remains the dominant organism at the completion of each fermentation;
8. The IAG, or its successor may inspect the fermentation facility at mutually agreed times;
9. The applicant shall provide a written report of the trial on completion of the fermentations, or at any other time if requested by the IAG or its successor.

Trial start date	August 1997
Completion date	N/A
Post harvest monitoring completion date	N/A

Trial Number	45
Project title	**Field trial of genetically modified *Pinus radiata*.**
Application approved	18 December 1997
Approved trial period	January 1998-January 2003
Organism Common name	Radiata Pine
Organism Scientific Name	*Pinus radiata*
Modified by:	1. β-glucuronidase reporter gene (GUS) 2. Neomycin-phosphotransferase gene (NPT II) for kanamycin resistance
Locations of field trial	NZFRI nursery area, Long Mile road, Rotorua
Institution / Company	New Zealand Forest Research Institute Ltd
Institution / Company Contact(s)	M. Carson, Biotechnology Manager, FRI
Conditions on approval	1. The trial is approved for a five year period from time of planting; 2. Only persons authorised by the trial Manager shall be admitted to the trial site; 3. To prevent the escape of introduced genes no genetically modified Pinus radiata shall be permitted to form pollen cones; 4. The growth and development of the genetically modified trees shall be monitored by F.R.I. staff, at least monthly; 5. Any early developing cones found shall be pruned and incinerated or autoclaved; 6. The field trial site shall be surrounded by a fence to prevent unauthorised access; 7. On completion of the trial the trees shall be cut off at ground level and incinerated; 8. The IAG, or its successor, may at reasonable times, carry out annual inspections of the trial during the approved trial period, with additional post trial inspections as necessary; 9. The applicant shall maintain, and provide for inspection on request, a log showing the actions taken to manage the trial in relation to the conditions imposed ; 10. The applicant shall provide a written report to the IAG, or its successor, on completion of the trial, or at any other time if

requested by the IAG, or its successor;
11. The applicant shall ensure that all staff involved in the operations and management of the trial are aware of the above conditions.

Conditions post harvest	N/A
Trial start date	January 1998
Completion date	January 2003
Post harvest monitoring completion date	N/A

Trial Number	46
Project title	**Field trial of herbicide tolerant maize for breeding purposes**
Application approved	10 November 1997
Approved trial period	November 1997- November 1998
Organism Common name	Maize
Organism Scientific Name	*Zea mays*
Modified by:	1. Phosphinothrincin gene (PAT) from *Streptomyces virichromogenes* for resistance to glufosinate herbicides 2. β-lactamase ampicillin resistant gene
Locations of field trial	Arrowville Road, Aka Aka
Institution / Company	Pioneer Hi-Bred International, Inc. Johnston, IA, USA
Institution / Company Contact(s)	R. Oliver, Pioneer Overseas Corporation, PUKEKOHE
Conditions on approval	1. The approval is for a single field trial to be performed in the 1997/98 growing season; 2. Only persons authorised by the trial Manager shall be admitted to the trial site; 3. The trial shall be isolated from other maize by at least 400m; 4. The maize shall be hand pollinated; 5. Male donor silks shall be detasseled after crossing; 6. Female recipients and donor tassels shall be bagged; 7. All seed produced will be exported or destroyed ; 8. The residual plant material, at the completion of the trial will be cultivated into the soil; 9. The IAG, or its successor, may at reasonable times, carry out annual inspections of the trial during the approved trial period, with additional post trial inspections as necessary; 10. The applicant shall maintain, and provide for inspection on request, a log showing the actions taken to manage the trial in relation to the conditions imposed ; 11. The applicant shall provide a written report to the IAG, or its successor, on completion of the trial, or at any other time if requested by the IAG, or its successor; 12. At the completion of the trial the site shall be planted in a non-maize crop and monitored, monthly, for maize volunteers for 1 year. 13. The applicant shall ensure that all staff involved in the

operations and management of the trial are aware of the above conditions;

Trial start date	November 1997
Completion date	April 1998
Post harvest monitoring completion date	30 April 1999

Trial Number	47
Project title	**Field trial of insect tolerant maize for breeding purposes**
Application approved	10 November 97
Approved trial period	October 1997-October 1998
Organism Common name	Maize
Organism Scientific Name	*Zea mays*
Modified by:	1. CryIA(b) gene from *Bacillus thuringiensis* gene for European Corn Borer tolerance 2. Neomycin-phosphotransferase gene (NPT II) for kanamycin resistance 3. lacZ alpha gene 4. CP4 EPSPS gene for glyphosate resistance 5. GOX gene encoding glyphosate metabolising enzyme
Locations of field trial	Arrowville Road, Aka Aka
Institution / Company	Pioneer Hi-Bred International, Inc. Johnston, IA, USA
Institution / Company Contact(s)	R. Oliver, Pioneer Overseas Corporation P O Box 280 PUKEKOHE
Conditions on approval	1. The approval is for a single field trial to be performed in the 1997/98 growing season; 2. Only persons authorised by the trial Manager shall be admitted to the trial site; 3. The trial shall be isolated from other maize by at least 400m; 4. The maize shall be hand pollinated; 5. Male donor silks shall be detasseled after crossing; 6. Female recipients and donor tassels shall be bagged; 7. All seed produced will be exported or destroyed ; 8. The residual plant material, at the completion of the trial will be cultivated into the soil; 9. The IAG, or its successor, may at reasonable times, carry out annual inspections of the trial during the approved trial period, with additional post trial inspections as necessary; 10. The applicant shall maintain, and provide for inspection on request, a log showing the actions taken to manage the trial in relation to the conditions imposed ; 11. The applicant shall provide a written report to the IAG, or its successor, on completion of the trial, or at any other time if requested by the IAG, or its successor; 12. The applicant shall ensure that all staff involved in the operations

	and management of the trial are aware of the above conditions 13. At the completion of the trial the site shall be planted in a non-maize crop and monitored, monthly, for maize volunteers for 1 year.
Trial start date	November 1997
Completion date	April 1998
Post harvest monitoring completion date	30 April 1999

Trial Number	48
Project title	**Field test of genetically modified sheep**
Application approved	9 March 98
Approved trial period	March 1998-March 2001
Organism Common name	Sheep
Organism Scientific Name	*Ovis* sp.
Modified by:	Modified for over expression of IGF-I (insulin-like growth factor)
Locations of field trial	Lincoln University research farm isolation ground
Institution / Company	Lincoln University
Institution / Company Contact(s)	S. Damak, Animal and Veterinary Sciences Group
Conditions on approval	1. The approval is for three years from the date of approval; 2. Only persons authorised by the trial Manager shall be admitted to the isolation ground; 3. The Isolation Ground must continue in operation as approved by the IAG on 3 April 1992 and following its inspection of 6 June 1997; 4. The woolshed is not deemed to be part of the Isolation Ground, but is approved for intermittent use for stock management or animal husbandry purposes related to this trial, provided that it is secure and lockable; 5. Surgical room (number 35) and adjacent secured holding pens in the Johnston Memorial Laboratory are not deemed to be a part of the Isolation Ground, but are approved for intermittent use for surgical purposes. This use is subject to the following conditions: i) The applicant shall record in the log book that all sheep are accounted for, before and after movements, to and from the room and holding pens; ii) The sheep shall not be left unattended at any time while outside the isolation ground, and; iii) The laboratory doors must be locked while transgenic sheep are housed within; 6. The use of the Isolation Ground for other than the proposed trial may only occur with specific prior approval by the IAG; 7. Nothing in this approval to field test genetically modified sheep

implies approval for general release of the transgenic sheep in the future, such release would require further approval from the IAG or its successor;

8. No live transgenic animals shall be permitted to leave the isolation ground without the approval of the IAG or its successor;
9. All transgenic animals must be permanently and individually identified by two approved methods. One tagging and one permanent method shall be used;
    i) Plastic tags, or;
    ii) Brass tags, and;
    iii) Tattoos;
    iv) Implanted identifying microchip.
6. The identification system for transgenic animals shall enable the following information to be derived from a database;
    i) Genotype;
    ii) Generation (F0,F1..etc);
    iii) Ownership.
7. All embryos, ova and semen which has been genetically modified, or collected from transgenic animals shall be identified and stored at a secure site;
8. A register of transgenic animals must be maintained which records the identity and fate of all animals on the isolation ground;
9. The Manager shall report immediately to the IAG or its successor on any event that is likely to be in the public interest, eg. unexpected mortality in several transgenic animals or intruders break security and jeopardise health of animals;
10. The isolation ground shall be enclosed by double perimeter fences, a minimum of 2 metres apart. One of the fences shall be a minimum of 2 metres high;
11. All animals no longer required for breeding or quarantine purposes shall be disposed of by burial;
12. The applicant shall maintain, and provide for inspection on request, a log showing the actions taken to manage the trial in relation to the conditions imposed;
13. The IAG, or its successor, must be notified of the completion of the field trial, and a final written report provided to the IAG, or its successor. Additionally a written update on the trial must be submitted each March for the three year approval period, or at any other time if requested by the IAG or its successor;
14. The Lincoln University Animal Ethics Committee and Biological Safety Committee shall be kept informed of the continuing field trial and written annual reports submitted;
15. The IAG, its representatives, or its successor may at reasonable times, carry out inspections of the trial during the trial period;
16. The applicant shall ensure that all staff involved in the operations and management of the trial are aware of the above conditions.

Conditions post harvest N/A

Trial start date March 1998

Completion date	March 2001
Post harvest monitoring completion date	N/A

Trial Number	49
Project title	**Field test of genetically modified lisianthus (*Eustoma grandiflorum*)**
Application approved	10 November 1997
Approved trial period	November 1997-November 1998
Organism Common name	Lisianthus
Organism Scientific Name	*Eustoma grandiflorum*
Modified by:	1. A flavonoid gene involved in plant pigmentation 2. Neomycin-phosphotransferase gene (NPT II) for kanamycin resistance
Locations of field trial	Massey University, Palmerston North
Institution / Company	New Zealand Institute for Crop and Food Research Ltd. (Crop & Food Research)
Institution / Company Contact(s)	Dr Marie Bradley, Crop & Food Research, Levin
Conditions on approval	1. The approval is for a single field trial to be performed in the 1997/98 growing season; 2. Only persons authorised by the trial Manager shall be admitted to the trial site; 3. The field trial shall be conducted in a partially enclosed greenhouse (18m x 6m); 4. No other lisianthus crops shall be grown in surrounding area; 5. Any seed pods produced during the trial shall be removed early in development, or shall be collected prior to seed dehiscence. The pods shall be destroyed by autoclave or contained in a Category 0 facility; 6. At the completion of the trial, all plants will removed by hand and disposed of by autoclaving or incineration. The trial site shall be sterilised with either methyl bromide, dazomet or steam, to ensure no viable plant material remains; 7. The trial site and surrounding area shall be monitored for escape for 1 year following trial. Should plants be found leaf tissue shall be tested for kanamycin resistance and the plants removed for destruction by autoclaving; 8. The IAG, its representatives, or its successor may at reasonable times, carry out up to 6 inspections of the trial during the trial period, plus post trial inspections as necessary 9. The applicant shall maintain, and provide for inspection on request, a log showing the actions taken to manage the trial in relation to the conditions imposed; 10. The applicant shall provide a written report to the IAG, or its

	successor on completion of the trial, or at any other time if requested by the IAG, or its successor; 11. The applicant shall ensure that all staff involved in the operations and management of the trial are aware of the above conditions.
Trial start date	December 1997
Completion date	To be confirmed
Post harvest monitoring completion date	1 year from completion date

Trial Number	50
Project title	**Field testing of peas (Pisum sativum L.) modified for resistance to alfalfa mosaic virus**
Application approved	24 November 97, Postponed September 1998 planting date approved 9 March 1998
Approved trial period	September 1998-September 1999
Organism Common name	garden pea
Organism Scientific Name	*Pisum sativum* L.
Modified by:	1. Gene for expression of the coat protein from alfalfa mosaic virus (AMV) 2. Neomycin-phosphotransferase gene (NPT II) for kanamycin resistance.
Locations of field trial	Crop and Food Research, Lincoln
Institution / Company	New Zealand Institute for Crop and Food Research Ltd. (Crop & Food Research)
Institution / Company Contact(s)	Dr Gail Timmerman-Vaughan, Crop and Food Research, Lincoln
Conditions on approval	1. The approval is for a single field trial to be performed from September 1998; 2. Only persons authorised by the trial Manager shall be admitted to the trial site; 3. The field trial will be isolated from other pea crops by 200m; 4. The field trial will be segregated from the surrounding environment by buffer rows of non-transgenic peas; 5. Bird-proof netting shall be erected over the genetically modified peas from flowering time; 6. The peas shall be hand sown and hand harvested. The harvested plants shall be bundled, dried and threshed individually, on site, to ensure all peas produced are collected. The site will be inspected for dropped seeds. All resulting pea trash shall be burned on site; 7. The trial site shall be left fallow for 1 year following harvest; 8. Authorised Crop and Food Research staff will monitor the trial site for two years following harvest for the appearance of adventitious pea plants. The inspections shall be performed monthly for the first year. Any plants found will be hand

removed and destroyed by autoclaving;
9. The IAG, its representatives, or its successor may at reasonable times, carry out up to 6 inspections of the trial during the trial period, with additional post trial inspections as necessary;
10. The applicant shall maintain, and provide for inspection on request, a log showing the actions taken to manage the trial in relation to the conditions imposed;
11. The applicant shall provide a written report to the IAG, or its successor on completion of the trial, or at any other time if requested by the IAG, or its successor;
12. The applicant shall ensure that all staff involved in the operations and management of the trial are aware of the above conditions.

Trial start date	September 1998.
Completion date	To be confirmed.
Post harvest monitoring completion date	2 years from completion date.

Trial Number	51
Project title	**Field test of tamarillo genetically modified for resistance to tamarillo mosaic virus**
Application approved	9 January 1998
Approved trial period	January 1998-January 2001 (2 fruiting seasons)
Organism Common name	Tamarillo
Organism Scientific Name	*Cyphomandra betacea*
Modified by:	1. A gene for expression of the tamarillo mosaic virus (TaMV) coat protein, conferring resistance to the virus. 2. Neomycin phosphotransferase gene (NPT II) for Kanamycin resistance
Locations of field trial	HortResearch Keri Keri Research Centre, Keri Downs Road, Keri Keri
Institution / Company	Horticulture and Food Research Institute of New Zealand Ltd (HortResearch)
Institution / Company Contact(s)	Dr Richard Forster Dr Dan Cohen Dr Greg Pringle HortResearch, AUCKLAND
Conditions on approval	1. The trial is approved for 2 fruiting seasons (36 months) from date of approval; 2. Only persons authorised by the trial Manager shall be admitted to the trial site; 3. The trial site will be isolated from tamarillo trees not involved in the trial by at least 400m; 4. To prevent the spread of seeds via birds, possums and rodents, HortResearch staff shall;

i) Monitor and pick up fruit fall at least 3 times per week from 3 months post antithesis (fruit formation);
ii) Set traps to catch rodents in the trial site area;
iii) Remove and destroy all fruit not required for the trial, cover any ripening fruit, attractive to birds or possums, with bird netting;

5. To monitor for spread of transgenic pollen HortResearch staff shall sample fruit on non-transgenic plants that are:
   i) interspersed within the transgenic rows;
   ii) in adjacent rows on the side facing the transgenic trees;
   iii) in adjacent rows on the side facing away from the transgenic trees;
   iv) growing on an adjacent site.
6. Inflorescences shall be tagged on non-transgenic plants that are in flower at the same time as transgenic plants. Fruit that set will be tagged individually and a total of ten per mature tree shall be collected from at least three trees at each of the four locations above;
7. No fruit shall be eaten from the non-transgenic tamarillo trees currently on the Keri Keri Station, but seed will be collected to monitor spread of transgenic pollen;
8. At the completion of the trial all trees shall be destroyed by incineration or removed into a containment glasshouse;
9. The trial site shall be monitored for two years following completion of the trial for the appearance of volunteer tamarillo plants, which shall be removed and destroyed;
10. The IAG, its representatives, or its successor may at reasonable times, carry out up to 6 inspections of the trial during the trial period, with additional post trial inspections as necessary;
11. The applicant shall maintain, and provide for inspection on request, a log showing the actions taken to manage the trial in relation to the conditions imposed;
12. The applicant shall provide a written report to the IAG, or its successor on completion of the trial, or at any other time if requested by the IAG, or its successor;
13. The applicant shall ensure that all staff involved in the operations and management of the trial are aware of the above conditions.

Trial start date	January 1998
Completion date	31 January 2001
Post harvest monitoring completion date	31 January 2003

Trial Number	52
Project title	**Field test of apples genetically modified for reduced production of ethylene**
Application approved	18 December 97
Approved trial period	December 1997-December 1998

Organism Common name	Apple
Organism Scientific Name	*Malus domestica* cv 'Royal Gala'
Modified by:	1. Acetolactate synthase (als) gene conferring resistance to the herbicide, chlorsulfuron; 2. β-glucuronidase reporter gene (GUS); 3. ACC synthase gene expected to modify the ethylene production in plant tissue; 4. Neomycin phosphotransferase gene (NPT II) for kanamycin resistance
Locations of field trial	HortResearch Mt Albert Research Centre, Auckland
Institution / Company	Horticulture and Food Research Institute of New Zealand Ltd (HortResearch)
Institution / Company Contact(s)	D. Cohen B.A.M. Morris HortResearch, Mt Albert
Conditions on approval	1. The approval is for a single field trial to be performed between December 1997 and December 1998; 2. Only persons authorised by the trial Manager shall be admitted to the trial site; 3. Flowering trees shall only be transferred to the field trial site once all pollen release has ceased; 4. Mt Albert security officers shall visit the site daily; 5. The trial shall be conducted inside a 2m fence enclosure, with a single locked entrance. The wire mesh fence shall be covered in plastic windcloth, to reduce wind damage and screen the area from visitors; 6. Fruit bearing trees shall be covered with plastic bird netting as fruit nears maturity; 7. The site shall be inspected at two day intervals, and fallen fruit will be collected and destroyed; 8. Traps shall be set to attract and catch any rodents that enter the site; 9. All fruit will be collected at maturity and all trees will be removed from the trial site and returned to containment glasshouses; 10. Following the trial the site will be monitored for 1 year for volunteer seedlings; 11. The IAG, its representatives, or its successor may at reasonable times, carry out up to 6 inspections of the trial during the trial period, with additional post trial inspections as necessary; 12. The applicant shall maintain, and provide for inspection on request, a log showing the actions taken to manage the trial in relation to the conditions imposed; 13. The applicant shall provide a written report to the IAG, or its successor on completion of the trial, or at any other time if requested by the IAG, or its successor; 14. The applicant shall ensure that all staff involved in the operations and management of the trial are aware of the above conditions.

Trial start date	January 1998
Completion date	To be confirmed
Post harvest monitoring completion date	1 year from completion date

Trial Number	53
Project title	**Field testing of genetically modified broccoli**
Application approved	24 November 1997
Approved trial period	November 1997-November 1998
Organism Common name	Broccoli
Organism Scientific Name	*Brassica oleracea* var. *italica*
Modified by:	1. Gene coding for an ethylene producing enzyme from tomato, inserted in the reverse orientation (EFE); or 2. Gene coding the ethylene insensitivity gene (ETR1-1);from the *Arabidopsis thaliana* 3. Neomycin phosphotransferase gene (NPT II) for kanamycin resistance. 4. *rol* genes B and C.
Locations of field trial	Crop & Food Research, Lincoln
Institution / Company	New Zealand Institute for Crop and Food Research Ltd. (Crop & Food Research)
Institution / Company Contact(s)	Dr Mary Christey Crop & Food Research, Lincoln
Conditions on approval	1. The approval is for a single field trial to be performed between November 1997 and November 1998; 2. Only persons authorised by the trial Manager shall be admitted to the trial site; 3. The trial site shall be 100m from other brassica crops and any wild brassica seedlings that appear will be removed and destroyed; 4. The trial will be monitored daily, once flower initiation is apparent; 5. Any wild brassica seedlings that appear within the trial shall be destroyed by hoeing or herbicide. 6. All trial plants shall be removed or destroyed prior to any flower buds opening, allowing no opportunity for pollen transfer; 7. At completion of the trial the plants shall be dug out of the ground, and a number may be repotted into a containment greenhouse for flowering and seed collection. The trial site shall be ploughed to cut up all remaining plant material and prevent regrowth; 8. The trial site will be monitored for volunteer plants for one year following completion of the trial;

9. Any plants found in the post trial monitoring period shall be assayed by Polymerase Chain Reaction analysis to determine if they originate as escapes from the trial or as volunteer weeds. The plants will be destroyed by herbicide, or removed by hand and autoclaved or incinerated;
10. The IAG, its representatives, or its successor may at reasonable times, carry out up to 6 inspections of the trial during the trial period, with additional post trial inspections as necessary;
11. The applicant shall maintain, and provide for inspection on request, a log showing the actions taken to manage the trial in relation to the conditions imposed;
12. The applicant shall provide a written report to the IAG or its successor on completion of the trial, or at any other time if requested by the IAG or its successor;
13. The applicant shall ensure that all staff involved in the operations and management of the trial are aware of the above conditions.

Trial start date	January 1998
Completion date	June 1998
Post harvest monitoring completion date	30 June 1999

Trial Number	54
Project title	**Field testing of genetically modified forage brassicas (with resistance to glufosinate ammonium herbicides)**
Application approved	24 November 1997
Approved trial period	1 season
Organism Common name	Forage rape and kale
Organism Scientific Name	*Brassica oleracea* var *acephala* *Brassica napus* var *biennis*
Modified by:	1. Phosphinothrincin acetyl transferase gene (bar) derived from *Streptomyces hygroscopicus* (conferring resistance to phosphinothricin herbicides) 2. *rol* genes A,B,C, and D
Locations of field trial	Crop & Food Research, Lincoln
Institution / Company	New Zealand Institute for Crop and Food Research Ltd. (Crop & Food Research)
Institution / Company Contact(s)	Dr Mary Christey Crop & Food Research, Lincoln
Conditions on approval	1. The approval is for a single field trial to be performed between November 1997 and November 1998; 2. Only persons authorised by the trial Manager shall be admitted to the trial site; 3. The trial site shall be 100m from other brassica crops and any

wild brassica seedlings that appear will be removed and destroyed;

4. The trial will be monitored daily, once flower initiation is apparent;
5. Any wild brassica seedlings that appear within the trial shall be destroyed by hoeing or herbicide.
6. All trial plants shall be removed or destroyed prior to any flower buds opening, allowing there will be no opportunity for pollen transfer;
7. At completion of the trial the plants shall be dug out of the ground, and a number may be repotted into a containment greenhouse for flowering and seed collection. The trial site shall be ploughed to cut up all remaining plant material and prevent regrowth;
8. The trial site will be monitored for volunteer plants for one year following completion of the trial;
9. Any plants found in the post trial monitoring period shall be assayed by Polymerase Chain Reaction analysis to determine if they originate as escapes from the trial or as volunteer weeds. The plants will be destroyed by herbicide, or removed by hand and autoclaved or incinerated;
10. The IAG, its representatives, or its successor may at reasonable times, carry out up to 6 inspections of the trial during the trial period, with additional post trial inspections as necessary;
11. The applicant shall maintain, and provide for inspection on request, a log showing the actions taken to manage the trial in relation to the conditions imposed;
12. The applicant shall provide a written report to the IAG, or its successor on completion of the trial, or at any other time if requested by the IAG, or its successor;
13. The applicant shall ensure that all staff involved in the operations and management of the trial are aware of the above conditions.

Trial start date	March 1998
Completion date	To be confirmed
Post harvest monitoring completion date	1 year from completion date

Trial Number	55
Project title	**Field testing of potatoes genetically modified for resistance to larvae of potato tuber moth**
Application approved	24 November 1997
Approved trial period	November 1997-November 1998
Organism Common name	Potato
Organism Scientific Name	*Solanum tuberosum* L.

Modified by:	1. CryIAc or Cry9A2gene from *Bacillus thuringiensis* (Bt) for resistance to larvae of potato tuber moth 2. Neomycin phosphotransferase gene (NPT II) for resistance to the antibiotic, kanamycin)
Locations of field trial	Crop & Food Research, Lincoln
Institution / Company	New Zealand Institute for Crop and Food Research Ltd. (Crop & Food Research)
Institution / Company Contact(s)	A. J. Conner Crop & Food Research, Lincoln
Conditions on approval	1. The approval is for a single field trial to be performed between November 1997 and November 1998; 2. Only persons authorised by the trial Manager shall be admitted to the trial site; 3. Transgenic potatoes shall be isolated from other potato crops by at least 50m to prevent possibility of pollen transfer; 4. Three buffer rows of non-transgenic potato shall surround the trial; 5. All berries that form on transgenic plants shall be collected and destroyed by autoclave, or seeds removed under containment conditions; 6. At harvest all tubers will be dug by hand and removed from the site in securely tied sacks. The tubers shall be stored in a containment greenhouse or destroyed; 7. All harvesting and cultivation equipment shall be thoroughly cleaned before reuse; 8. The trial site shall be monitored for volunteers for at least two years following completion of the trial. Any volunteer plants shall be removed by hand digging and autoclaved or destroyed by herbicide; 9. The IAG, its representatives, or its successor may at reasonable times, carry out up to 6 inspections of the trial during the trial period, with additional post trial inspections as necessary; 10. The applicant shall maintain, and provide for inspection on request, a log showing the actions taken to manage the trial in relation to the conditions imposed; 11. The applicant shall provide a written report to the IAG, or its successor on completion of the trial, or at any other time if requested by the IAG, or its successor; 12. The applicant shall ensure that all staff involved in the operations and management of the trial are aware of the above conditions.
Trial start date	December 1998
Completion date	June 1998
Post harvest monitoring completion date	31 June 1999

Trial Number	56

Project title	**Field testing of potatoes genetically modified for resistance to aphids**
Application approved	24 November 1997
Approved trial period	November 1997-November 1998
Organism Common name	Potato
Organism Scientific Name	*Solanum tuberosum* L.
Modified by:	An Escherichia coli gene for the manufacture of an enzyme (gluthathione reductase). Over expression of the enzyme is anticipated to prevent the activity of the oxidase enzymes in aphid saliva, that are used to detoxify the plants chemical defences.
Locations of field trial	Crop & Food Research, Lincoln
Institution / Company	New Zealand Institute for Crop and Food Research Ltd. (Crop & Food Research)
Institution / Company Contact(s)	A. J. Conner Crop & Food Research, Lincoln
Conditions on approval	1. The approval is for a single field trial to be performed between November 1997 and November 1998; 2. Only persons authorised by the trial Manager shall be admitted to the trial site; 3. Transgenic potatoes shall be isolated from other potato crops by at least 50m to prevent possibility of pollen transfer; 4. Three buffer rows of non-transgenic potato shall surround the trial; 5. All berries that form on transgenic plants shall be collected and destroyed by autoclave, or seeds removed under containment conditions; 6. At harvest all tubers will be dug by hand and removed from the site in securely tied sacks. The tubers shall be stored in a containment greenhouse or destroyed; 7. All harvesting and cultivation equipment shall be thoroughly cleaned before reuse; 8. The trial site shall be monitored for volunteers for at least two years following completion of the trial. Any volunteer plants shall be removed by hand digging and autoclaved or destroyed by herbicide; 9. The IAG, its representatives, or its successor may at reasonable times, carry out up to 6 inspections of the trial during the trial period, with additional post trial inspections as necessary; 10. The applicant shall maintain, and provide for inspection on request, a log showing the actions taken to manage the trial in relation to the conditions imposed; 11. The applicant shall provide a written report to the IAG, or its successor on completion of the trial, or at any other time if requested by the IAG, or its successor; 12. The applicant shall ensure that all staff involved in the operations and management of the trial are aware of the above conditions.
Trial start date	December 1998
Completion date	May 1998

Post harvest monitoring completion date	31 May 1999

Trial Number	57
Project title	**Potatoes with soft rot and blackleg bacteria resistance**
Application approved	24 November 1997
Approved trial period	November 1997-November 1998
Organism Common name	Potato
Organism Scientific Name	*Solanum tuberosum* L.
Modified by:	1. Antibacterial genes (cecropin B or magainin II or lysozyme) that are highly active against Erwinia soft-rots. 2. Neomycin phosphotransferase gene (NPT II) for kanamycin resistance.
Locations of field trial	Crop & Food Research, Lincoln
Institution / Company	New Zealand Institute for Crop and Food Research Ltd. (Crop & Food Research)
Institution / Company Contact(s)	A. J. Conner Crop & Food Research, Lincoln
Conditions on approval	1. The approval is for a single field trial to be performed between November 1997 and November 1998; 2. Only persons authorised by the trial Manager shall be admitted to the trial site; 3. Transgenic potatoes shall be isolated from other potato crops by at least 50m to prevent possibility of pollen transfer; 4. Three buffer rows of non-transgenic potato shall surround the trial; 5. All berries that form on transgenic plants shall be collected and destroyed by autoclave, or seeds removed under containment conditions; 6. At harvest all tubers will be dug by hand and removed from the site in securely tied sacks. The tubers shall be stored in a containment greenhouse or destroyed; 7. All harvesting and cultivation equipment shall be thoroughly cleaned before reuse; 8. The trial site shall be monitored for volunteers for at least two years following completion of the trial. Any volunteer plants shall be removed by hand digging and autoclaved or destroyed by herbicide; 9. The IAG, its representatives, or its successor may at reasonable times, carry out up to 6 inspections of the trial during the trial period, with additional post trial inspections as necessary; 10. The applicant shall maintain, and provide for inspection on request, a log showing the actions taken to manage the trial in relation to the conditions imposed; 11. The applicant shall provide a written report to the IAG, or its successor on completion of the trial, or at any other time if requested by the IAG, or its successor; 12. The applicant shall ensure that all staff involved in the operations and management of the trial are aware of the above conditions.
Trial start date	December 1998
Completion date	May 1998

Post harvest monitoring completion date	31 May 1999

Trial Number	58
Project title	**Proposal to field test transgenic barley**
Application approved	24 November 1997
Approved trial period	November 1997-November 1998
Organism Common name	Barley
Organism Scientific Name	*Hordeum vulgare* L. cv Golden Promise
Modified by:	1. Gene coding for a malting enzyme with a high heat stability (1,3-1,4-β-glucanase) 2. Phosphinothrincin gene (PAT) from *Streptomyces virichromogenes* for resistance to glufosinate herbicides 3. β-glucuronidase reporter gene (GUS)
Locations of field trial	Irwell, Canterbury
Institution / Company	Southern Seed Technology on behalf of Diter von Wettstein, Washington State University, Pullman, WA
Institution / Company Contact(s)	Mr Steve Inwood Director Southern Seed Technology, Leeston
Conditions on approval	1. The approval is for a single field trial to be performed between November 1997 and November 1998; 2. Only persons authorised by the trial Manager shall be admitted to the trial site; 3. The trial shall be covered in bird exclusion netting to prevent seed removal by birds; 4. Rodent bait stations shall be place around and within trial site, and shall be monitored; 5. The trial shall be isolated from other barley by at least 50 metres; 6. A buffer of non-transgenic barley of 2m shall surround the trial crop; 7. Seed shall be harvested by hand prior to maturity and mechanically threshed on-site; 8. Remaining plant material shall be burned on site; 9. The site shall be monitored for volunteer barley plants, at least monthly, for 1 year following trial completion. Any plants found shall be destroyed by herbicide; 10. The IAG, its representatives, or its successor may at reasonable times, carry out up to 6 inspections of the trial during the trial period, with additional post trial inspections as necessary; 11. The applicant shall maintain, and provide for inspection on request, a log showing the actions taken to manage the trial in relation to the conditions imposed; 12. The applicant shall provide a written report to the IAG, or its successor on completion of the trial, or at any other time if requested by the IAG, or its successor;

	13. The applicant shall ensure that all staff involved in the operations and management of the trial are aware of the above conditions.
Trial start date	November 1997
Completion date	May 1998
Post harvest monitoring completion date	31 May 1999

Trial Number	59
Project title	**Field trial of genetically modified sugarbeet**
Application approved	10 November 1997
Approved trial period	November 1997-November 1998
Organism Common name	Sugarbeet
Organism Scientific Name	*Beta vulgaris* ssp. *vulgaris*
Modified by:	1. Phosphinothrincin gene (PAT) from *Streptomyces virichromogenes* for resistance to glufosinate herbicides 2. Neomycin phosphotransferase gene (NPT II) for resistance to kanamycin
Locations of field trial	Halketts Road, West Melton, Canterbury
Institution / Company	Kimihia Research Centre, Wrightson Seeds on behalf of Betaseed Inc.
Institution / Company Contact(s)	Kai Tegels, Kimihia Research Centre, Wrightson Seeds, Christchurch
Conditions on approval	1. The approval is for a single field trial to be performed between November 1997 and November 1998; 2. Only persons authorised by the trial Manager shall be admitted to the trial site; 3. The trial shall be monitored every two weeks for appearance of bolters (seed stalks). 4. All bolters found shall be removed and no beets shall be allowed to flower; 5. An adjacent non-transgenic observation plot of sugarbeet shall not be allowed to flower and shall be at least 10m from the transgenic plot; 6. The trial shall be isolated from other Beta species by 100m; 7. At the completion of the trial all beets shall be destroyed by herbicide and the site rotary hoed; 8. The IAG, its representatives, or its successor may at reasonable times, carry out up to 6 inspections of the trial during the trial period, with additional post trial inspections as necessary; 9. The applicant shall maintain, and provide for inspection on request, a log showing the actions taken to manage the trial in relation to the conditions imposed; 10. The applicant shall provide a written report to the IAG, or its successor on the completion of the trial, or at any other time if requested by the IAG or its successor; 11. The applicant shall ensure that all staff involved in the operations and management of the trial are aware of the above conditions.

Trial start date	November 1997
Completion date	March 1998
Post harvest monitoring completion date	31 March 1998

Trial Number	60
Project title	**Field test of genetically modified canola**
Application approved	27 November 1997
Approved trial period	November 1997-November 1998
Organism Common name	Canola (Oil seed rape)
Organism Scientific Name	*Brassica napus* L. and *Brassica rapa* L.
Aims	To produce Roundup Ready canola seed for planting in Canada in the 1998 season.
Modified by:	Monsanto Roundup Ready™ genes for tolerance of glyphosate, the active ingredient in Roundup herbicide
Locations of field trial	Hendley Block, Shands Road, Lincoln
Institution / Company	Zeneca Seeds Inc. Canada
Institution / Company	N. Rampton on behalf of Zeneca Seeds Inc. Canada
Contact(s)	B. Patchett, Cropmark, Ashburton
Conditions on approval	1. The approval is for a single field trial to be performed between November 1997 and November 1998; 2. Only persons authorised by the trial Manager shall be admitted to the trial site; 3. The total crop area of the trial shall be no more than 0.36 hectares; 4. Pollen, bird, rodent and insect proof tents shall be erected over trial plots prior to flowering; 5. The tent skirts shall be buried 10 cm into the ground and a further 20cm of soil shall be placed on top; 6. The tents shall be monitored daily to check their integrity is maintained; 7. Beehives and rodent baits shall be placed within the tents. The beehives shall not be removed from tents until tests show the pollen is no longer viable; 8. The harvest and processing of all seed shall occur on site, within the pollen tents. No plant material may be taken off-site for processing; 9. The applicant shall fumigate the each tent site, tent corridors and bars soil buffers using Basamid, immediately following the incineration of plant material, to destroy residual seed remaining after harvest. The soil shall remain undisturbed for at least three weeks; 10. The trial site and a 400m radius isolation zone shall be monitored for four years following harvest, or for one year after no new canola seedlings appear; 11. Weedy brassicas plants and canola seedlings found during post harvest monitoring shall be destroyed by herbicide or removed; 12. The IAG, its representatives, or its successor may at reasonable

	times, carry out inspections of the trials during the trial period, plus additional post trial inspections as necessary; 13. The applicant shall maintain, and provide for inspection on request, a log showing the actions taken to manage the trial in relation to the conditions imposed; 14. The applicant shall provide a written report to the IAG, or its successor on the completion of the trials, or at any other time if requested by the IAG, or its successor; 15. The applicant shall ensure that all staff involved in the operations and management of the trials are aware of the above conditions.
Trial start date	November 1997
Completion date	May 1998
Post harvest monitoring completion date	31 May 2002, or 1 year after the last canola seedling appears on the 400m radius trial site.

SCHEDULE 3: SPECIFICATIONS AND OPERATING PROCEDURES FOR CATEGORY 0 (C0) LABORATORY CONTAINMENT

C0 containment does not involve any special laboratory design, but does require the investigator to conform to the standard of practice expected in a microbiological laboratory handling infectious organisms and detailed in the booklet *Laboratory Safety for General and Microbiological Laboratories* (Occupational and Health Service, Department of Labour).

Specific operating procedures governing C0 containment are:

* Cultures and equipment containing or having been contaminated with living organisms should be disinfected, or preferably sterilised by autoclaving before disposal or being washed. (In general, a suitable chemical disinfectant for glassware is hypochlorite solution containing at least 5,000 part per million of available chlorine. Household or laundry bleach diluted 1:8 should be satisfactory. The disinfectant should be allowed to act for at least 30 minutes and all dilutions should be made up daily). The effectiveness of the disinfectant for the particular organisms should be tested and the concentrations adjusted if necessary;

* Work benches and surfaces should be decontaminated daily by swabbing with disinfectant solution;

* The use of mouth pipettes is forbidden;

* The use of hypodermic syringes in the laboratory is not encouraged unless absolutely necessary (e.g. for the inoculation of animals);

* All waterbaths in the laboratory should contain an effective disinfectant;

* Eating, drinking, smoking, the application of cosmetics and the storage of food or drink are prohibited in the laboratory. Suitable protective clothing and gloves, where appropriate, should always be worn in the laboratory and removed before leaving. Hands should be washed with soap and warm water before leaving the laboratory or whenever contaminated with biological material.

SCHEDULE 4: CONSTRUCTION REQUIREMENTS AND OPERATING PROCEDURES FOR PHYSICAL CONTAINMENT IN CATEGORY I

Access

Safety measures.

Public access.	Unaccompanied visitors not permitted.
Access for children.	Not permitted.
Animals and plants not related to experiment.	Not permitted.
Exterior signs.	Outside access door must be marked with biohazard sign and level of containment.
Laboratory separated from general traffic patterns of building.	Not necessary.
Use of laboratory for other purposes.	As far as practicable, should be reserved for work in question or for other work requiring similar containment.

Special engineering design features

Safety measures.

Access doors.	No special requirements.
Fume cupboard or safety cabinets. *Note:* Installed air filter systems must be tested for particle arrestance efficiency before approval of containment and once a year thereafter.	Must have fume cupboard or negative pressure cabinet with filtered extract to contain aerosol-producing equipment, if such equipment is used.
Laboratory ventilation and airlocks	Permitted with filter protection (see above).
Recirculation of exhaust air.	Permitted.
Hand washing facilities.	Must have hand basin with elbow- or foot- operated taps. Basin should be situated near exit.
Autoclave.	No special requirements.
Vacuum lines.	No special requirements.
Pest control measures.	Should be provided.
Laboratory walls, floors and ceilings.	No special requirements but formica or stainless steel benchtops recommended.
Size of laboratory.	No special requirements.
Clothing change and shower rooms.	Not needed.
Working on an open benchtop.	Permitted.

Decontamination of work surface.	Daily and following spills (e.g. with 1.7% Na hypochlorite).
Pipetting.	Mouth pipetting not permitted.
Records.	Special record of all untoward incidents as well as accidents required.
Eating, drinking, smoking, application of cosmetics and storage of food in laboratory.	Prohibited.
Use of hypodermic needles and syringes.	Not encouraged.
Outer street wear.	May be kept in laboratory.
Infectious liquid wastes.	Decontaminate before disposal.
Infectious solid wastes.	Decontaminate or package in leak-proof containers before leaving laboratory. Must be autoclaved before disposal.
Use of laboratory clothing.	Properly designed laboratory overall required.

SCHEDULE 5: CONSTRUCTION REQUIREMENTS, AND OPERATING PROCEDURES FOR PHYSICAL CONTAINMENT IN CATEGORY 2

Access

Safety measures.

Public access.	Unaccompanied visitors not permitted.
Access for children.	Not permitted.
Animals and plants not related to experiment.	Not permitted.
Exterior signs.	Outside access door must be marked with biohazard sign and level of containment.
Laboratory separated from general traffic patterns of building.	Must not be sited adjacent to, and must not open from, corridors used by the general public.
Use of laboratory for other purposes.	Not permitted.

Special engineering design features

Safety measures.

Access doors.	One main access door. Must be kept locked when laboratory not in use & with limited key distribution. Additional fire exits must open from inside only.
Fume cupboard or safety cabinets. *Note:* Installed air filter systems must be tested for particle arrestance efficiency before approval of containment and once a year thereafter.	Must have an exhaust-protective cabinet for aerosol-producing equipment.
Laboratory ventilation and airlocks.	Laboratory airlock must be ventilated by a plenum & exhaust system. Exhaust air must be filtered through an appropriate HEPA filter before it leaves the laboratory. Input air should be filtered to remove coarse particles. Laboratory must at all times be under negative air pressure of at least 50 Pa, this reading to be displayed on a manometer that can be read from both inside and outside the laboratory
Recirculation of exhaust air.	Permitted with filter protection (see above).
Hand washing facilities.	Must have hand basin with elbow- or foot- operated taps. Basin should be situated near exit.
Autoclave.	No special requirements.
Vacuum lines.	No special requirements.
Pest control measures.	Required.

Laboratory walls, floors and ceilings.	No special requirements but formica or stainless steel benchtops recommended.
Size of laboratory.	No special requirements.
Clothing change and shower rooms.	Not needed.
Working on an open benchtop.	Permitted.
Decontamination of work surface.	Daily and following spills (e.g. with 1.7% Na hypochlorite).
Pipetting.	Mouth pipetting not permitted.
Records.	Daily log of usage required. Special record of all untoward incidents as well as accidents required.
Eating, drinking, smoking, application of cosmetics and storage of food in laboratory.	Prohibited.
Use of hypodermic needles and syringes.	Not permitted.
Outer street wear.	May be kept in laboratory.
Infectious liquid wastes.	Decontaminate before disposal.
Infectious solid wastes.	Decontaminate or package in leak-proof containers before leaving laboratory. Must be autoclaved before disposal.
Use of laboratory clothing.	Properly designed laboratory overall required.

SCHEDULE 6: CONSTRUCTION REQUIREMENTS, AND OPERATING PROCEDURES FOR ANIMAL CONTAINMENT 1

SPECIAL CONSTRUCTION FEATURES FOR ANIMAL CONTAINMENT 1, AC1

Construction

Location.	Physically separated.
Materials (internal).	Impervious and easily cleaned.
Joints.	Preferably sealed.
Door(s).	Sliding or inward opening, self closing, fitted with a step-over barrier in the doorway.
Other openings.	Screened with approved mesh (e.g. 60/40 swg).
Drains.	Rodent and pest proof; exit points filled with water or with disinfectant.
Anteroom.	Required if facility separated from other containment areas.
Airlock.	Not required.
Negative pressure.	Not required.
Air supply and exhaust.	Screened.
Mechanical equipment.	Preferably external.
Washing facilities.	Advisable.
Autoclave.	Advisable.
Biohazard cabinets.	Necessary if aerosols produced.
Signpost.	Present, identifying the containment level; and with operating, maintenance and emergency procedures.

Note: Installed air filter systems must be tested for particle arrestance efficiency before approval of containment and once a year thereafter.

STANDARD OPERATING PROCEDURES FOR ANIMAL CONTAINMENT 1, AC1

i The animal facility must be inspected regularly by the institutional Biological Safety Officer to ensure that its containment features are intact. Only people authorised by the Biological Safety Officer can enter the animal laboratory. All such people should be trained in normal animal house procedures as well as these operating procedures. A record book should be maintained to provide an up-to-date inventory of the procedures performed.

ii Standard procedures for containment as for C0/CI level must be followed.

* Work surfaces are to be decontaminated after use and after any spill of viable material. Eating, drinking, smoking, the application of cosmetics and the storage of food for human use are not permitted in animal rooms.

* Personnel shall wash their hands after handling cultures and animals and before leaving the animal room.

* Operations which may generate aerosols are to be carried out in a biological safety cabinet as specified for CI containment.

* Protective clothing, gloves and footwear should be worn. Such clothing shall not be worn in other areas. Protection against inhalation of aerosols, scratches or bites should be considered.

* Bedding material and waste from animal cages and pens shall be removed in such a manner as to minimise the creation of aerosols. This material shall be rendered safe by sterilisation.

* Animal pens and cages should be decontaminated after use and washed regularly.

iii Special attention should be paid to constraining animals during an experiment. The prevention of their escape shall be ensured.

iv Animals or animal tissues transported into or out of the animal house must be carried in closed containers. Animals involved in genetic manipulation experiments are not to be used for other purposes or to provide tissues for other purposes.

v Live animals or animal tissues taken from the animal house must only go to another containment facility, or be transferred to another organisation which has suitable containment facilities.

vi Animal carcasses must be rendered safe by sterilisation before disposal.

SCHEDULE 7: CONSTRUCTION REQUIREMENTS, AND OPERATING PROCEDURES FOR ANIMAL CONTAINMENT 2

SPECIAL CONSTRUCTION FEATURES FOR ANIMAL CONTAINMENT 2, AC2

Construction

Location.	As for AC1. (**SCHEDULE 6**)
Materials (internal).	As for AC1. (**SCHEDULE 6**)
Joints.	Sealed to allow gas decontamination.
Door(s).	As for AC1(**SCHEDULE 6**); fire escape lock required.
Other openings.	As for AC1. (**SCHEDULE 6**)
Drains.	As for AC1(**SCHEDULE 6**); must empty to holding tank containing disinfectant.
Anteroom.	Required, with protective clothing and insect control measures.
Airlock.	Required; two doors in series, automatically closing and exit controlled via negative pressure system.
Negative pressure.	Minimum 50 Pa below external pressure, with automatic gauges and alarm.
Air supply and exhaust	Independent; filtered with appropriate particle arrestance efficiency roughing filters.
Mechanical equipment.	Must be external.
Washing facilities.	Located in anteroom, close to exit and with elbow or foot operated taps.
Autoclave.	Required.
Biohazard cabinets.	Required for all animal operations.
Signpost.	As for AC1. (**SCHEDULE 6**)

Note: Installed air filter systems must be tested for particle arrestance efficiency before approval of containment and once a year thereafter.

Additional operating procedures for Animal Containment 2, AC2

i Standard procedures for operating at CII laboratory level must be followed. No other work is to be done simultaneously with work requiring CII containment.

The CII animal facility must be inspected at least annually by the Institutional Supervisory Committee to ensure that its containment requirements are intact.

Only people authorised by the Biological Safety Officer are to enter the animal facility and only after they have been advised of the potential hazard, and meet any specific requirements (e.g. immunisation). A record should be

maintained to provide an up-to-date inventory of the animals present and a chronological record of procedures performed.

ii Protective clothing, gloves and footwear shall be worn. Dirty clothing must be decontaminated, preferably autoclaved, before being laundered.

iii Cages shall be decontaminated by autoclaving before cleaning and washing.

SCHEDULE 8: CONSTRUCTION REQUIREMENTS, AND OPERATING PROCEDURES FOR PLANT HOUSE 1 CONTAINMENT, PH1

SPECIAL CONSTRUCTION REQUIREMENTS FOR PLANT HOUSES PH1

Construction

Floor.	Concrete.
Transparent sections.	Glass permitted.
Joints.	Preferably sealed.
Openings.	Screened with 30/32 mesh wire gauze.
Drains.	Rodent and insect proof.
Anteroom.	Must be present if facility is free-standing; fitted with pest control measures.
Negative pressure.	Not required.
Air supply and ducting.	Screened with approved mesh wire gauze (e.g.30/32).
Mechanical equipment.	Preferably outside plant house.
Plant containers.	No special requirements.
Washing facilities.	Advisable.
Signpost, identifying the containment level; and operating and emergency procedures.	Present.

Note: Installed air filter systems must be tested for particle arrestance efficiency before approval of containment and once a year thereafter.

OPERATING PROCEDURES FOR PLANT HOUSE 1 CONTAINMENT, PH1

The following operating procedures (PH1) are regarded as a suitable minimum for genetic manipulation work with whole plants which falls under Category 0 and Category I.

i The plant house must be inspected regularly to ensure that its containment features are intact. Screens, filters and the like must be cleaned regularly (in accord with manufacturer's specifications when provided).

ii All doors to the plant house must be locked for the duration of the work except for those periods when personnel are actually working inside the plant house.

iii Hands must be washed with soap and water before leaving the plant house.

iv Only persons authorised by the institutional Biological Safety Officer are to enter the plant house. All such persons must be trained to follow normal plant house routines as well as these operating procedures.

v All plants in the plant house must be treated as containing genetically manipulated DNA. Work in the plant house other than that involving genetic manipulation should be discouraged.

vi Operations which may generate aerosols are to be done in a biological safety cabinet as specified for CI containment.

vii Plants and tissues taken into or out of the plant house must be carried in closed containers. Waste plants, tissues, soil, soil substitutes and the containers must be sterilised.

viii Living plants or tissues must not be taken from the plant house except to a containment laboratory or, with the approval of the institutional Biological Safety Officer, when they are being transferred to another organisation.

ix If the work permits, plants should be sprayed regularly with a systemic insecticide. The plant house must be sprayed or fumigated to kill arthropods (especially mites) at regular intervals, and at the end of each series of experiments. The organisation must have an effective insect and rodent control programme.

x The experimental materials must be inspected regularly for signs of arthropod infestation. The inspection regime must pay particular attention to mites as they would not normally be excluded by the window and vent screens.

Plant house work which falls under Category II will require at least PH1 level of containment, and additional operating procedures and/or a higher standard of construction may be recommended.

SCHEDULE 9: CONTAINMENT REQUIREMENTS FOR WORK WITH FISH

Requirements for work involving genetically modified fish

The following code of practice for containment of genetically modified fish is recommended as a minimum. The primary objective in the provision of a containment facility for work with transgenic fish is the retention of the smallest water borne viable particles, such as sperm at approximately 5 micron, and the prevention of the escape of any genetically modified fish. Where possible, transgenic work should be restricted to sterile fish.

If a native organism is involved, provide evidence of the outcome of consultation with iwi on the likely effect of genetic modification on taonga Maori.

If human gene transfer into non-human organisms is involved, provide justification for the use of a human DNA sequence as opposed to using its non-human homologue.

Containment facility design

i Facilities used for hatching and raising fingerlings to grow-out stage shall be located in totally enclosed buildings of vermin and amphibia proof design. Entry and exit to the facility should be through an air locked entrance with provision for clothing changes and showers.

ii The building must not form an access way to other buildings or parts of a building. Full provision shall be made to prevent unauthorised entry to the building.

iii The building must not be located in any area that is prone to flooding; nor should effluent water from the building drain without treatment into rivers, streams or beaches.

iv The facility should use recirculating water where transgenic work is being carried out. Flow-through systems should not be used unless approved by the ACNGT.

v Water input and output pipes should be double screened. Discharged water should be passed through an appropriate trap prior to discharge.

Effluent water

It is necessary to change water used in a recirculating system. For some species of fish, it may be necessary to remove and replace 5-10% of the water daily. Larval fish and eggs of many species are extremely small and transparent, and it is essential to ensure that escapees are trapped and/or killed by filtration, heat or chemical treatment before water flows out of the facility.

Spawning

While it is preferred that transgenic research concentrates on the production of sterile fish, it is conceded that this approach is unlikely to be satisfactory to all researchers.

Many species of fish have sticky eggs which attach firmly to a substrate. Eggs seldom hatch in unison and it is normal practice to discard those eggs which fail to hatch within a given time. The small size and transparent nature of eggs make it mandatory to ensure that nets and other utensils used in the tank containing transgenic fish do not transfer viable eggs to other tanks or to flow-through systems.

i Nests, spawning mats or other spawning substrates shall be sterilised or incinerated once the hatch is completed.

ii If fish are induced to spawn on the side of tanks, it will be necessary to decontaminate the tanks. Decontamination will be by a procedure of demonstrable efficacy in sterilising eggs and sperm for species used in the work.

iii All nets and utensils used during spawning must be sterilised.

Predators and theft

Predators, usually birds, can passively transport the eggs of aquatic animals great distances, and gulls can also bring about the dispersion of juvenile and adult fish.

i Transgenic fish shall be housed to prevent predator attacks. Bird netting, while not 100% reliable, is safer than any other form of protection against birds.

ii To protect contained facilities from theft and vandalism, movement sensors, light beams and alarms are required, as perimeter fencing alone is not an effective deterrent.

Grow-out facilities

Certain experiments with transgenic fish may necessitate use of outdoor tanks and raceways. On no account shall such trials be permitted in net cages either in fresh water or in the sea. As such experiments may require keeping fish outside the contained facility, the IAG must be consulted. See section 12 for address of the IAG.

Personnel

As some fish eggs can be sticky and can remain viable out of water for long periods if kept moist, there is always the risk of transferring eggs to other locations unless care is taken. The following protocols ought to be enforced in facilities undertaking work with transgenic fish. Visitors shall also comply with the requirements.

i Personnel working at the facility shall be limited to those involved in the project.

ii Protective clothing should be encouraged in the facility to reduce disease risks.

Note: Applications for work with other aquatic genetically modified animals should be submitted to the ACNGT with a complete description of the facility to be used. The ACNGT will assess the suitability of these containment procedures and requirements on a case-by-case basis.

ADDITIONAL REQUIREMENTS FOR SPECIFC FISH CONTAINMENT FACILITIES

1. ACNGT APPROVED CONTAINED SALMON GROW-OUT FACILITIES FOR THE NEW ZEALAND KING SALMON CO. LTD, KAITUNA HATCHERY, NORTHBANK RD, RD5 BLENHEIM

Security

Access to the site can only be gained through two separate padlocked gates.

Perimeter fencing:

- Wire deer netting, 2.2m high, with barbed wire at the top, and fence posts placed 4m apart. The bottom wire is at ground level.

Alarms

- Perimeter alarm system covering the whole site consisting of an Aleph point to point dual infrared beam alarm system.
- Passive infrared heat sensor placed centrally on the generator shed, window of approx 30m.
- Movement sensor in conjunction with the infrared sensor.
- Security light on the main office building covering the entry area.
- Alarms on all the doors to each building, which connect to a security alarm and autodialer (3 personnel from the company are paged if the alarms go off).

Hatchery building

Colour Steel and timber framed building with concrete floor. Access is through a single alarmed door and a single internal access door from the adjoining cleaning room. Small glass windows on two walls. Double mesh filters of a mesh size suitable to prevent eggs, embryos and hatchlings escaping, are in place on the water outlet from the hatchery. A hypochlorite footbath is placed at the entrance way to the hatchery.

Raceways

Fish in the four raceways on site are contained within a concrete walled structure completely covered in netting. Double stainless mesh screens are present at the water outlets to prevent the salmon escaping.

Settling pond

The outlet of the pond is screened to prevent access to natural waterways.

2. ACNGT APPROVED CONTAINED FISH HOLDING FACILITIES IN WEST MELTON, UNIVERSITY OF CANTERBURY.

ACNGT conditions on approval of the containment facility:

i. The facility is certified for the holding of fish only. The facility may not be used for the actual experimental manipulation, including the examination of fish tissue, without the approval of the ACNGT or its successor.
ii. The fish must be generated through approved experiments carried out in other approved facilities, and transported to the new site under appropriate containment. All new experiments require approval in advance.
iii. No sexually mature fish may be held, and the fish must be removed from the facility before they are expected to become sexually mature.
iv. Any future proposal to hold sexually mature or spawning fish in the facility must be notified to and approved by the ACNGT or it successor. Such approval, if given, may be contingent upon upgrading of the containment facility and may require further inspection by the ACNGT or its successor.
v. Live fish removed from the facility must be securely transported and may be only taken to another certified containment facility. If they are taken to a laboratory for examination they must be killed on arrival.
vi. All fish that are not required for tissue examination must be killed, and disposed of on site by burying or incineration
vii. Any changes to, or upgrading of, the facility must be notified to the ACNGT, or its successor.

DEPARTMENT OF INTERNAL AFFAIRS
TE TARI TAIWHENUA

PUBLISHED BY AUTHORITY OF DEPARTMENT OF INTERNAL AFFAIRS:
GP LEGISLATION SERVICES, WELLINGTON, NEW ZEALAND—1998

ISSN 0111-5650
Price $9 (inc. G.S.T.)
31461—98A